

Annex 1D. Transport (IPCC 1A3)
to the Technical Support Document for California's 2000-2014 Greenhouse Gas
Emission Inventory

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Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

IPCC category = 1A3 — Fuel Combustion Activities - Transport

► **Sector = Not Specified Transportation**

Activity = Fuel combustion - Distillate

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Distillate	2000	52,244,228 gal	Assume equal to 2007-2010 average
Fuel combustion - Distillate	2001	52,244,228 gal	Assume equal to 2007-2010 average
Fuel combustion - Distillate	2002	52,244,228 gal	Assume equal to 2007-2010 average
Fuel combustion - Distillate	2003	52,244,228 gal	Assume equal to 2007-2010 average
Fuel combustion - Distillate	2004	52,244,228 gal	Assume equal to 2007-2010 average
Fuel combustion - Distillate	2005	52,244,228 gal	Assume equal to 2007-2010 average
Fuel combustion - Distillate	2006	52,244,228 gal	Assume equal to 2007-2010 average
Fuel combustion - Distillate	2007	37,888,119 gal	TSD On-road
Fuel combustion - Distillate	2008	61,853,841 gal	TSD On-road
Fuel combustion - Distillate	2009	34,694,181 gal	TSD On-road
Fuel combustion - Distillate	2010	74,540,771 gal	TSD On-road
Fuel combustion - Distillate	2011	36,095,069 gal	TSD On-road
Fuel combustion - Distillate	2012	39,872,954 gal	TSD On-road
Fuel combustion - Distillate	2013	36,954,506 gal	TSD On-road
Fuel combustion - Distillate	2014	51,774,170 gal	TSD On-road
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b
Heat content	2014	138,000 btu / gal	USEPA, 2012b

Activity = Fuel combustion - LPG

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - LPG	2000	14,322,000 gal	EIA, 2013c
Fuel combustion - LPG	2001	16,380,000 gal	EIA, 2013c
Fuel combustion - LPG	2002	21,042,000 gal	EIA, 2013c
Fuel combustion - LPG	2003	21,420,000 gal	EIA, 2013c
Fuel combustion - LPG	2004	20,076,000 gal	EIA, 2013c
Fuel combustion - LPG	2005	35,364,000 gal	EIA, 2013c
Fuel combustion - LPG	2006	36,456,000 gal	EIA, 2013c
Fuel combustion - LPG	2007	31,920,000 gal	EIA, 2013c
Fuel combustion - LPG	2008	55,440,000 gal	EIA, 2013c
Fuel combustion - LPG	2009	42,546,000 gal	EIA, 2013c
Fuel combustion - LPG	2010	36,204,000 gal	EIA, 2013c
Fuel combustion - LPG	2011	41,664,000 gal	EIA, 2013c
Fuel combustion - LPG	2012	45,066,000 gal	EIA, 2013c
Fuel combustion - LPG	2013	54,432,000 gal	EIA, 2013c
Fuel combustion - LPG	2014	54,432,000 gal	Assume equal to previous year
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.063 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.063 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.063 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.063 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.063 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.063 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.063 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.063 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.063 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.063 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.063 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.063 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.063 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.063 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.063 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	92,000 btu / gal	USEPA, 2012b
Heat content	2001	92,000 btu / gal	USEPA, 2012b
Heat content	2002	92,000 btu / gal	USEPA, 2012b
Heat content	2003	92,000 btu / gal	USEPA, 2012b
Heat content	2004	92,000 btu / gal	USEPA, 2012b
Heat content	2005	92,000 btu / gal	USEPA, 2012b
Heat content	2006	92,000 btu / gal	USEPA, 2012b
Heat content	2007	92,000 btu / gal	USEPA, 2012b
Heat content	2008	92,000 btu / gal	USEPA, 2012b
Heat content	2009	92,000 btu / gal	USEPA, 2012b
Heat content	2010	92,000 btu / gal	USEPA, 2012b
Heat content	2011	92,000 btu / gal	USEPA, 2012b
Heat content	2012	92,000 btu / gal	USEPA, 2012b
Heat content	2013	92,000 btu / gal	USEPA, 2012b
Heat content	2014	92,000 btu / gal	USEPA, 2012b

Activity = Fuel combustion - Residual fuel oil

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Residual fuel oil	2000	0 gal	EIA, 2013b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel combustion - Residual fuel oil	2001	157,000 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2002	0 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2003	1,162,000 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2004	0 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2005	539,000 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2006	390,000 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2007	1,799,000 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2008	744,000 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2009	621,000 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2010	595,000 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2011	332,000 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2012	0 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2013	0 gal	EIA, 2013b
Fuel combustion - Residual fuel oil	2014	0 gal	EIA, 2013b
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.0751 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	150,000 btu / gal	USEPA, 2012b
Heat content	2001	150,000 btu / gal	USEPA, 2012b
Heat content	2002	150,000 btu / gal	USEPA, 2012b
Heat content	2003	150,000 btu / gal	USEPA, 2012b
Heat content	2004	150,000 btu / gal	USEPA, 2012b
Heat content	2005	150,000 btu / gal	USEPA, 2012b
Heat content	2006	150,000 btu / gal	USEPA, 2012b
Heat content	2007	150,000 btu / gal	USEPA, 2012b
Heat content	2008	150,000 btu / gal	USEPA, 2012b
Heat content	2009	150,000 btu / gal	USEPA, 2012b
Heat content	2010	150,000 btu / gal	USEPA, 2012b
Heat content	2011	150,000 btu / gal	USEPA, 2012b
Heat content	2012	150,000 btu / gal	USEPA, 2012b
Heat content	2013	150,000 btu / gal	USEPA, 2012b
Heat content	2014	150,000 btu / gal	USEPA, 2012b

IPCC category = 1A3a — Fuel Combustion Activities - Transport - Civil Aviation

► Sector = Aviation

Activity = Fuel combustion - Ethanol

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Ethanol	2000	112,109 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2001	139,516 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2002	181,149 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2003	1,055,655 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2004	1,462,089 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2005	1,393,934 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2006	1,328,986 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2007	1,419,300 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2008	1,320,670 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2009	1,096,182 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2010	1,481,937 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2011	1,305,598 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2012	1,795,548 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2013	1,740,394 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2014	2,264,037 gal	TSD Gasoline / Ethanol
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.0684 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CO2 emission	2001	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.0684 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	84,000 btu / gal	USEPA, 2012b
Heat content	2001	84,000 btu / gal	USEPA, 2012b
Heat content	2002	84,000 btu / gal	USEPA, 2012b
Heat content	2003	84,000 btu / gal	USEPA, 2012b
Heat content	2004	84,000 btu / gal	USEPA, 2012b
Heat content	2005	84,000 btu / gal	USEPA, 2012b
Heat content	2006	84,000 btu / gal	USEPA, 2012b
Heat content	2007	84,000 btu / gal	USEPA, 2012b
Heat content	2008	84,000 btu / gal	USEPA, 2012b
Heat content	2009	84,000 btu / gal	USEPA, 2012b
Heat content	2010	84,000 btu / gal	USEPA, 2012b
Heat content	2011	84,000 btu / gal	USEPA, 2012b
Heat content	2012	84,000 btu / gal	USEPA, 2012b
Heat content	2013	84,000 btu / gal	USEPA, 2012b
Heat content	2014	84,000 btu / gal	USEPA, 2012b

Activity = Fuel combustion - Gasoline

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Gasoline	2000	29,676,891 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2001	27,414,484 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2002	30,361,851 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2003	29,487,345 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2004	26,617,911 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2005	23,831,067 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2006	22,679,014 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2007	24,176,700 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2008	20,303,330 gal	TSD Gasoline / Ethanol

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel combustion - Gasoline	2009	16,552,818 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2010	14,110,063 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2011	11,356,718 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2012	16,943,712 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2013	15,665,186 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2014	18,851,638 gal	TSD Gasoline / Ethanol
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.0709 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0709 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0711 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.071 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0711 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.071 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.0713 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0717 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0713 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0713 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0713 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0713 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0713 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.0713 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.0713 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	125,000 btu / gal	USEPA, 2012b
Heat content	2001	125,000 btu / gal	USEPA, 2012b
Heat content	2002	125,000 btu / gal	USEPA, 2012b
Heat content	2003	125,000 btu / gal	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Heat content	2004	125,000 btu / gal	USEPA, 2012b
Heat content	2005	125,000 btu / gal	USEPA, 2012b
Heat content	2006	125,000 btu / gal	USEPA, 2012b
Heat content	2007	125,000 btu / gal	USEPA, 2012b
Heat content	2008	125,000 btu / gal	USEPA, 2012b
Heat content	2009	125,000 btu / gal	USEPA, 2012b
Heat content	2010	125,000 btu / gal	USEPA, 2012b
Heat content	2011	125,000 btu / gal	USEPA, 2012b
Heat content	2012	125,000 btu / gal	USEPA, 2012b
Heat content	2013	125,000 btu / gal	USEPA, 2012b
Heat content	2014	125,000 btu / gal	USEPA, 2012b

IPCC category = 1A3ai — Fuel Combustion Activities - Transport - Civil Aviation - International Aviation (International Bunkers)

► Sector = Aviation : International Civil Aviation

Activity = Fuel combustion - Jet fuel

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Jet fuel	2000	1,707,399,444 gal	Compilation, see text
Fuel combustion - Jet fuel	2001	1,542,443,405 gal	Compilation, see text
Fuel combustion - Jet fuel	2002	1,598,420,968 gal	Compilation, see text
Fuel combustion - Jet fuel	2003	1,479,736,059 gal	Compilation, see text
Fuel combustion - Jet fuel	2004	1,604,229,050 gal	Compilation, see text
Fuel combustion - Jet fuel	2005	1,645,686,418 gal	Compilation, see text
Fuel combustion - Jet fuel	2006	1,711,027,078 gal	Compilation, see text
Fuel combustion - Jet fuel	2007	1,783,847,294 gal	Compilation, see text
Fuel combustion - Jet fuel	2008	1,689,656,539 gal	Compilation, see text
Fuel combustion - Jet fuel	2009	1,674,215,759 gal	Compilation, see text
Fuel combustion - Jet fuel	2010	1,647,338,727 gal	Compilation, see text
Fuel combustion - Jet fuel	2011	1,733,327,738 gal	Compilation, see text
Fuel combustion - Jet fuel	2012	1,671,907,737 gal	Compilation, see text
Fuel combustion - Jet fuel	2013	1,829,587,182 gal	Compilation, see text
Fuel combustion - Jet fuel	2014	2,005,378,061 gal	Compilation, see text
Fuel CH4 emission	2000	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2001	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2002	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2003	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2004	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2005	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2006	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2007	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2008	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2009	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2010	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2011	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2012	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2013	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2014	5.300E-07 g / btu	IPCC, 2006b
Fuel CO2 emission	2000	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0722 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CO2 emission	2008	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.0722 g / btu	USEPA, 2012b
Fuel N2O emission	2000	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2001	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2002	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2003	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2004	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2005	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2006	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2007	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2008	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2009	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2010	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2011	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2012	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2013	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2014	2.100E-06 g / btu	IPCC, 2006b
Heat content	2000	135,000 btu / gal	USEPA, 2012b
Heat content	2001	135,000 btu / gal	USEPA, 2012b
Heat content	2002	135,000 btu / gal	USEPA, 2012b
Heat content	2003	135,000 btu / gal	USEPA, 2012b
Heat content	2004	135,000 btu / gal	USEPA, 2012b
Heat content	2005	135,000 btu / gal	USEPA, 2012b
Heat content	2006	135,000 btu / gal	USEPA, 2012b
Heat content	2007	135,000 btu / gal	USEPA, 2012b
Heat content	2008	135,000 btu / gal	USEPA, 2012b
Heat content	2009	135,000 btu / gal	USEPA, 2012b
Heat content	2010	135,000 btu / gal	USEPA, 2012b
Heat content	2011	135,000 btu / gal	USEPA, 2012b
Heat content	2012	135,000 btu / gal	USEPA, 2012b
Heat content	2013	135,000 btu / gal	USEPA, 2012b
Heat content	2014	135,000 btu / gal	USEPA, 2012b

IPCC category = 1A3aii — Fuel Combustion Activities - Transport - Civil Aviation - Domestic Aviation

► Sector = Aviation : Domestic Air transport

Activity = Fuel combustion - Aviation gasoline

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Aviation gasoline	2000	29,788,978 gal	Covert, 2013
Fuel combustion - Aviation gasoline	2001	28,340,315 gal	Covert, 2013
Fuel combustion - Aviation gasoline	2002	26,665,250 gal	Covert, 2013
Fuel combustion - Aviation gasoline	2003	29,116,383 gal	BOE, 2015
Fuel combustion - Aviation gasoline	2004	26,049,581 gal	BOE, 2015
Fuel combustion - Aviation gasoline	2005	25,087,971 gal	BOE, 2015
Fuel combustion - Aviation gasoline	2006	22,895,418 gal	BOE, 2015
Fuel combustion - Aviation gasoline	2007	27,801,567 gal	BOE, 2015
Fuel combustion - Aviation gasoline	2008	25,107,125 gal	BOE, 2015
Fuel combustion - Aviation gasoline	2009	19,648,636 gal	BOE, 2015
Fuel combustion - Aviation gasoline	2010	17,387,049 gal	BOE, 2015
Fuel combustion - Aviation gasoline	2011	16,722,185 gal	BOE, 2015
Fuel combustion - Aviation gasoline	2012	16,896,358 gal	BOE, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel combustion - Aviation gasoline	2013	16,424,554 gal	BOE, 2015
Fuel combustion - Aviation gasoline	2014	15,908,566 gal	BOE, 2015
Fuel CH4 emission	2000	6.000E-05 g / btu	USEPA, 2013c
Fuel CH4 emission	2001	6.000E-05 g / btu	USEPA, 2013c
Fuel CH4 emission	2002	6.000E-05 g / btu	USEPA, 2013c
Fuel CH4 emission	2003	6.000E-05 g / btu	USEPA, 2013c
Fuel CH4 emission	2004	6.000E-05 g / btu	USEPA, 2013c
Fuel CH4 emission	2005	6.000E-05 g / btu	USEPA, 2013c
Fuel CH4 emission	2006	6.000E-05 g / btu	USEPA, 2013c
Fuel CH4 emission	2007	6.000E-05 g / btu	USEPA, 2013c
Fuel CH4 emission	2008	6.000E-05 g / btu	USEPA, 2013c
Fuel CH4 emission	2009	6.000E-05 g / btu	USEPA, 2013c
Fuel CH4 emission	2010	6.000E-05 g / btu	USEPA, 2013c
Fuel CH4 emission	2011	6.000E-05 g / btu	USEPA, 2013c
Fuel CH4 emission	2012	6.000E-05 g / btu	USEPA, 2013c
Fuel CH4 emission	2013	6.000E-05 g / btu	USEPA, 2013c
Fuel CH4 emission	2014	6.000E-05 g / btu	USEPA, 2013c
Fuel CO2 emission	2000	0.0693 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0693 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0693 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.0693 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0693 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.0693 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.0693 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0693 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0693 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0693 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0693 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0693 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0693 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.0693 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.0693 g / btu	USEPA, 2012b
Fuel N2O emission	2000	9.000E-07 g / btu	USEPA, 2013c
Fuel N2O emission	2001	9.000E-07 g / btu	USEPA, 2013c
Fuel N2O emission	2002	9.000E-07 g / btu	USEPA, 2013c
Fuel N2O emission	2003	9.000E-07 g / btu	USEPA, 2013c
Fuel N2O emission	2004	9.000E-07 g / btu	USEPA, 2013c
Fuel N2O emission	2005	9.000E-07 g / btu	USEPA, 2013c
Fuel N2O emission	2006	9.000E-07 g / btu	USEPA, 2013c
Fuel N2O emission	2007	9.000E-07 g / btu	USEPA, 2013c
Fuel N2O emission	2008	9.000E-07 g / btu	USEPA, 2013c
Fuel N2O emission	2009	9.000E-07 g / btu	USEPA, 2013c
Fuel N2O emission	2010	9.000E-07 g / btu	USEPA, 2013c
Fuel N2O emission	2011	9.000E-07 g / btu	USEPA, 2013c
Fuel N2O emission	2012	9.000E-07 g / btu	USEPA, 2013c
Fuel N2O emission	2013	9.000E-07 g / btu	USEPA, 2013c
Fuel N2O emission	2014	9.000E-07 g / btu	USEPA, 2013c
Heat content	2000	120,000 btu / gal	USEPA, 2012b
Heat content	2001	120,000 btu / gal	USEPA, 2012b
Heat content	2002	120,000 btu / gal	USEPA, 2012b
Heat content	2003	120,000 btu / gal	USEPA, 2012b
Heat content	2004	120,000 btu / gal	USEPA, 2012b
Heat content	2005	120,000 btu / gal	USEPA, 2012b
Heat content	2006	120,000 btu / gal	USEPA, 2012b
Heat content	2007	120,000 btu / gal	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Heat content	2008	120,000 btu / gal	USEPA, 2012b
Heat content	2009	120,000 btu / gal	USEPA, 2012b
Heat content	2010	120,000 btu / gal	USEPA, 2012b
Heat content	2011	120,000 btu / gal	USEPA, 2012b
Heat content	2012	120,000 btu / gal	USEPA, 2012b
Heat content	2013	120,000 btu / gal	USEPA, 2012b
Heat content	2014	120,000 btu / gal	USEPA, 2012b

► Sector = Aviation : Domestic Air transport : Interstate

Activity = Fuel combustion - Jet fuel

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Jet fuel	2000	1,869,607,551 gal	Compilation, see text
Fuel combustion - Jet fuel	2001	1,762,269,495 gal	Compilation, see text
Fuel combustion - Jet fuel	2002	1,979,170,664 gal	Compilation, see text
Fuel combustion - Jet fuel	2003	1,956,618,733 gal	Compilation, see text
Fuel combustion - Jet fuel	2004	2,073,606,111 gal	Compilation, see text
Fuel combustion - Jet fuel	2005	1,997,757,794 gal	Compilation, see text
Fuel combustion - Jet fuel	2006	2,029,035,215 gal	Compilation, see text
Fuel combustion - Jet fuel	2007	2,124,757,324 gal	Compilation, see text
Fuel combustion - Jet fuel	2008	1,855,484,120 gal	Compilation, see text
Fuel combustion - Jet fuel	2009	1,802,896,430 gal	Compilation, see text
Fuel combustion - Jet fuel	2010	1,758,550,879 gal	Compilation, see text
Fuel combustion - Jet fuel	2011	1,723,099,542 gal	Compilation, see text
Fuel combustion - Jet fuel	2012	1,652,392,718 gal	Compilation, see text
Fuel combustion - Jet fuel	2013	1,729,957,485 gal	Compilation, see text
Fuel combustion - Jet fuel	2014	1,798,002,815 gal	Compilation, see text
Fuel CH4 emission	2000	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2001	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2002	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2003	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2004	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2005	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2006	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2007	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2008	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2009	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2010	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2011	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2012	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2013	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2014	5.300E-07 g / btu	IPCC, 2006b
Fuel CO2 emission	2000	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.0722 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CO2 emission	2014	0.0722 g / btu	USEPA, 2012b
Fuel N2O emission	2000	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2001	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2002	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2003	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2004	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2005	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2006	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2007	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2008	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2009	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2010	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2011	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2012	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2013	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2014	2.100E-06 g / btu	IPCC, 2006b
Heat content	2000	135,000 btu / gal	USEPA, 2012b
Heat content	2001	135,000 btu / gal	USEPA, 2012b
Heat content	2002	135,000 btu / gal	USEPA, 2012b
Heat content	2003	135,000 btu / gal	USEPA, 2012b
Heat content	2004	135,000 btu / gal	USEPA, 2012b
Heat content	2005	135,000 btu / gal	USEPA, 2012b
Heat content	2006	135,000 btu / gal	USEPA, 2012b
Heat content	2007	135,000 btu / gal	USEPA, 2012b
Heat content	2008	135,000 btu / gal	USEPA, 2012b
Heat content	2009	135,000 btu / gal	USEPA, 2012b
Heat content	2010	135,000 btu / gal	USEPA, 2012b
Heat content	2011	135,000 btu / gal	USEPA, 2012b
Heat content	2012	135,000 btu / gal	USEPA, 2012b
Heat content	2013	135,000 btu / gal	USEPA, 2012b
Heat content	2014	135,000 btu / gal	USEPA, 2012b

► Sector = Aviation : Domestic Air transport : Intrastate

Activity = Fuel combustion - Jet fuel

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Jet fuel	2000	369,178,655 gal	Compilation, see text
Fuel combustion - Jet fuel	2001	364,698,940 gal	Compilation, see text
Fuel combustion - Jet fuel	2002	368,115,737 gal	Compilation, see text
Fuel combustion - Jet fuel	2003	379,745,498 gal	Compilation, see text
Fuel combustion - Jet fuel	2004	409,957,490 gal	Compilation, see text
Fuel combustion - Jet fuel	2005	413,485,158 gal	Compilation, see text
Fuel combustion - Jet fuel	2006	423,479,211 gal	Compilation, see text
Fuel combustion - Jet fuel	2007	459,352,726 gal	Compilation, see text
Fuel combustion - Jet fuel	2008	417,257,660 gal	Compilation, see text
Fuel combustion - Jet fuel	2009	377,738,445 gal	Compilation, see text
Fuel combustion - Jet fuel	2010	362,850,729 gal	Compilation, see text
Fuel combustion - Jet fuel	2011	352,801,056 gal	Compilation, see text
Fuel combustion - Jet fuel	2012	351,442,545 gal	Compilation, see text
Fuel combustion - Jet fuel	2013	369,484,811 gal	Compilation, see text
Fuel combustion - Jet fuel	2014	364,250,601 gal	Compilation, see text
Fuel CH4 emission	2000	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2001	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2002	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2003	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2004	5.300E-07 g / btu	IPCC, 2006b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CH4 emission	2005	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2006	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2007	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2008	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2009	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2010	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2011	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2012	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2013	5.300E-07 g / btu	IPCC, 2006b
Fuel CH4 emission	2014	5.300E-07 g / btu	IPCC, 2006b
Fuel CO2 emission	2000	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.0722 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.0722 g / btu	USEPA, 2012b
Fuel N2O emission	2000	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2001	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2002	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2003	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2004	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2005	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2006	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2007	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2008	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2009	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2010	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2011	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2012	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2013	2.100E-06 g / btu	IPCC, 2006b
Fuel N2O emission	2014	2.100E-06 g / btu	IPCC, 2006b
Heat content	2000	135,000 btu / gal	USEPA, 2012b
Heat content	2001	135,000 btu / gal	USEPA, 2012b
Heat content	2002	135,000 btu / gal	USEPA, 2012b
Heat content	2003	135,000 btu / gal	USEPA, 2012b
Heat content	2004	135,000 btu / gal	USEPA, 2012b
Heat content	2005	135,000 btu / gal	USEPA, 2012b
Heat content	2006	135,000 btu / gal	USEPA, 2012b
Heat content	2007	135,000 btu / gal	USEPA, 2012b
Heat content	2008	135,000 btu / gal	USEPA, 2012b
Heat content	2009	135,000 btu / gal	USEPA, 2012b
Heat content	2010	135,000 btu / gal	USEPA, 2012b
Heat content	2011	135,000 btu / gal	USEPA, 2012b
Heat content	2012	135,000 btu / gal	USEPA, 2012b
Heat content	2013	135,000 btu / gal	USEPA, 2012b
Heat content	2014	135,000 btu / gal	USEPA, 2012b

IPCC category = 1A3b — Fuel Combustion Activities - Transport - Road Transportation

► Sector = On Road

Activity = Fuel combustion - Natural gas

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Natural gas	2000	2,354,486,769 scf	EIA, 2013c
Fuel combustion - Natural gas	2001	2,713,666,985 scf	EIA, 2013c
Fuel combustion - Natural gas	2002	2,798,455,835 scf	EIA, 2013c
Fuel combustion - Natural gas	2003	3,419,349,344 scf	EIA, 2013c
Fuel combustion - Natural gas	2004	3,839,016,871 scf	EIA, 2013c
Fuel combustion - Natural gas	2005	9,410,617,366 scf	EIA, 2013c
Fuel combustion - Natural gas	2006	9,888,605,387 scf	EIA, 2013c
Fuel combustion - Natural gas	2007	11,014,625,136 scf	EIA, 2013c
Fuel combustion - Natural gas	2008	11,722,786,415 scf	EIA, 2013c
Fuel combustion - Natural gas	2009	12,802,022,501 scf	EIA, 2013c
Fuel combustion - Natural gas	2010	13,571,996,544 scf	EIA, 2013c
Fuel combustion - Natural gas	2011	14,640,457,010 scf	EIA, 2013c
Fuel combustion - Natural gas	2012	14,635,975,450 scf	EIA, 2013c
Fuel combustion - Natural gas	2013	12,538,164,424 scf	EIA, 2013c
Fuel combustion - Natural gas	2014	12,379,493,751 scf	EIA, 2013c
Fuel CH4 emission	2000	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	1.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.053 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.053 g / btu	USEPA, 2012b
Fuel N2O emission	2000	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	1.000E-07 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel N2O emission	2005	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	1.000E-07 g / btu	USEPA, 2012b
Heat content	2000	956 btu / scf	EIA, 2013c
Heat content	2001	1,015 btu / scf	EIA, 2013c
Heat content	2002	1,019 btu / scf	EIA, 2013c
Heat content	2003	1,020 btu / scf	EIA, 2013c
Heat content	2004	1,020 btu / scf	EIA, 2013c
Heat content	2005	1,023 btu / scf	EIA, 2013c
Heat content	2006	1,023 btu / scf	EIA, 2013c
Heat content	2007	1,029 btu / scf	EIA, 2013c
Heat content	2008	1,028 btu / scf	EIA, 2013c
Heat content	2009	1,027 btu / scf	EIA, 2013c
Heat content	2010	1,022 btu / scf	EIA, 2013c
Heat content	2011	1,019 btu / scf	EIA, 2013c
Heat content	2012	1,020 btu / scf	EIA, 2013c
Heat content	2013	1,026 btu / scf	EIA, 2013c
Heat content	2014	1,028 btu / scf	USEPA, 2012b

IPCC category = 1A3bi — Fuel Combustion Activities - Transport - Road Transportation - Cars

► Sector = On Road : Light-duty Vehicles : Passenger Cars

Activity = Fuel combustion - Biodiesel

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Biodiesel	2000	24,388 gal	Calculation, see text
Fuel combustion - Biodiesel	2001	26,466 gal	Calculation, see text
Fuel combustion - Biodiesel	2002	39,592 gal	Calculation, see text
Fuel combustion - Biodiesel	2003	8,311 gal	Calculation, see text
Fuel combustion - Biodiesel	2004	11,291 gal	Calculation, see text
Fuel combustion - Biodiesel	2005	17,213 gal	Calculation, see text
Fuel combustion - Biodiesel	2006	117,044 gal	Calculation, see text
Fuel combustion - Biodiesel	2007	94,072 gal	Calculation, see text
Fuel combustion - Biodiesel	2008	61,677 gal	Calculation, see text
Fuel combustion - Biodiesel	2009	45,154 gal	Calculation, see text
Fuel combustion - Biodiesel	2010	41,650 gal	Calculation, see text
Fuel combustion - Biodiesel	2011	172,982 gal	Calculation, see text
Fuel combustion - Biodiesel	2012	224,463 gal	Calculation, see text
Fuel combustion - Biodiesel	2013	587,009 gal	Calculation, see text
Fuel combustion - Biodiesel	2014	746,629 gal	Calculation, see text
EMFAC category fuel combustion	2000	32,440,081 gal	ARB, 2014a
EMFAC category fuel combustion	2001	28,233,098 gal	ARB, 2014a
EMFAC category fuel combustion	2002	27,292,985 gal	ARB, 2014a
EMFAC category fuel combustion	2003	25,688,856 gal	ARB, 2014a
EMFAC category fuel combustion	2004	23,814,134 gal	ARB, 2014a
EMFAC category fuel combustion	2005	20,570,936 gal	ARB, 2014a
EMFAC category fuel combustion	2006	18,749,752 gal	ARB, 2014a
EMFAC category fuel combustion	2007	17,197,790 gal	ARB, 2014a
EMFAC category fuel combustion	2008	15,402,235 gal	ARB, 2014a
EMFAC category fuel combustion	2009	17,504,030 gal	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC category fuel combustion	2010	20,857,627 gal	ARB, 2014a
EMFAC category fuel combustion	2011	25,876,280 gal	ARB, 2014a
EMFAC category fuel combustion	2012	29,880,025 gal	ARB, 2014a
EMFAC category fuel combustion	2013	33,224,689 gal	ARB, 2014a
EMFAC category fuel combustion	2014	37,070,527 gal	ARB, 2014a
EMFAC CH4 emission	2000	15.35 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	13 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	11.83 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	10.41 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	9.29 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	7.72 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	6.73 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	5.87 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	5.01 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2009	4.65 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2010	4.37 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2011	3.98 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2012	3.64 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2013	3.31 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2014	3.09 Mg (tonnes)	ARB, 2014a
EMFAC total fuel combustion	2000	2,660,379,546 gal	ARB, 2014a
EMFAC total fuel combustion	2001	2,666,890,335 gal	ARB, 2014a
EMFAC total fuel combustion	2002	2,757,421,172 gal	ARB, 2014a
EMFAC total fuel combustion	2003	2,781,714,949 gal	ARB, 2014a
EMFAC total fuel combustion	2004	2,952,751,396 gal	ARB, 2014a
EMFAC total fuel combustion	2005	3,071,891,727 gal	ARB, 2014a
EMFAC total fuel combustion	2006	3,141,453,525 gal	ARB, 2014a
EMFAC total fuel combustion	2007	3,191,774,423 gal	ARB, 2014a
EMFAC total fuel combustion	2008	2,922,281,862 gal	ARB, 2014a
EMFAC total fuel combustion	2009	2,682,967,285 gal	ARB, 2014a
EMFAC total fuel combustion	2010	2,703,263,445 gal	ARB, 2014a
EMFAC total fuel combustion	2011	2,724,183,652 gal	ARB, 2014a
EMFAC total fuel combustion	2012	2,725,962,176 gal	ARB, 2014a
EMFAC total fuel combustion	2013	2,771,644,965 gal	ARB, 2014a
EMFAC total fuel combustion	2014	2,825,543,622 gal	ARB, 2014a
Fraction of fuel mix	2000	7.597E-04	TSD On-road
Fraction of fuel mix	2001	9.515E-04	TSD On-road
Fraction of fuel mix	2002	1.481E-03	TSD On-road
Fraction of fuel mix	2003	3.373E-04	TSD On-road
Fraction of fuel mix	2004	4.926E-04	TSD On-road
Fraction of fuel mix	2005	8.673E-04	TSD On-road
Fraction of fuel mix	2006	6.550E-03	TSD On-road
Fraction of fuel mix	2007	5.663E-03	TSD On-road
Fraction of fuel mix	2008	4.139E-03	TSD On-road
Fraction of fuel mix	2009	2.682E-03	TSD On-road
Fraction of fuel mix	2010	2.084E-03	TSD On-road
Fraction of fuel mix	2011	6.944E-03	TSD On-road
Fraction of fuel mix	2012	7.865E-03	TSD On-road
Fraction of fuel mix	2013	0.0179	TSD On-road
Fraction of fuel mix	2014	0.0205	TSD On-road
Fuel CO2 emission	2000	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0738 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CO2 emission	2005	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.0738 g / btu	USEPA, 2012b
Fuel N2O emission	2000	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2001	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2002	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2003	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2004	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2005	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2006	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2007	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2008	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2009	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2010	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2011	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2012	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2013	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2014	0.332 g / gal	ARB, 2014b
Fuel sales	2000	2,632,760,095 gal	Covert, 2013
Fuel sales	2001	2,627,365,783 gal	Covert, 2013
Fuel sales	2002	2,700,122,539 gal	Covert, 2013
Fuel sales	2003	2,667,933,637 gal	BOE, 2015
Fuel sales	2004	2,842,332,046 gal	BOE, 2015
Fuel sales	2005	2,963,733,672 gal	BOE, 2015
Fuel sales	2006	2,994,049,134 gal	BOE, 2015
Fuel sales	2007	3,082,740,281 gal	BOE, 2015
Fuel sales	2008	2,827,526,205 gal	BOE, 2015
Fuel sales	2009	2,580,139,949 gal	BOE, 2015
Fuel sales	2010	2,590,655,088 gal	BOE, 2015
Fuel sales	2011	2,622,534,125 gal	BOE, 2015
Fuel sales	2012	2,603,545,631 gal	BOE, 2015
Fuel sales	2013	2,740,305,658 gal	BOE, 2015
Fuel sales	2014	2,776,180,358 gal	BOE, 2015
Heat content	2000	128,000 btu / gal	USEPA, 2012b
Heat content	2001	128,000 btu / gal	USEPA, 2012b
Heat content	2002	128,000 btu / gal	USEPA, 2012b
Heat content	2003	128,000 btu / gal	USEPA, 2012b
Heat content	2004	128,000 btu / gal	USEPA, 2012b
Heat content	2005	128,000 btu / gal	USEPA, 2012b
Heat content	2006	128,000 btu / gal	USEPA, 2012b
Heat content	2007	128,000 btu / gal	USEPA, 2012b
Heat content	2008	128,000 btu / gal	USEPA, 2012b
Heat content	2009	128,000 btu / gal	USEPA, 2012b
Heat content	2010	128,000 btu / gal	USEPA, 2012b
Heat content	2011	128,000 btu / gal	USEPA, 2012b
Heat content	2012	128,000 btu / gal	USEPA, 2012b
Heat content	2013	128,000 btu / gal	USEPA, 2012b
Heat content	2014	128,000 btu / gal	USEPA, 2012b

Activity = Fuel combustion - Distillate

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Distillate	2000	32,078,908 gal	Calculation, see text
Fuel combustion - Distillate	2001	27,788,204 gal	Calculation, see text
Fuel combustion - Distillate	2002	26,686,250 gal	Calculation, see text
Fuel combustion - Distillate	2003	24,629,786 gal	Calculation, see text
Fuel combustion - Distillate	2004	22,912,303 gal	Calculation, see text
Fuel combustion - Distillate	2005	19,829,442 gal	Calculation, see text
Fuel combustion - Distillate	2006	17,752,925 gal	Calculation, see text
Fuel combustion - Distillate	2007	16,516,224 gal	Calculation, see text
Fuel combustion - Distillate	2008	14,841,137 gal	Calculation, see text
Fuel combustion - Distillate	2009	16,788,016 gal	Calculation, see text
Fuel combustion - Distillate	2010	19,931,921 gal	Calculation, see text
Fuel combustion - Distillate	2011	24,720,627 gal	Calculation, see text
Fuel combustion - Distillate	2012	28,213,906 gal	Calculation, see text
Fuel combustion - Distillate	2013	30,634,340 gal	Calculation, see text
Fuel combustion - Distillate	2014	34,304,621 gal	Calculation, see text
EMFAC category fuel combustion	2000	32,440,081 gal	ARB, 2014a
EMFAC category fuel combustion	2001	28,233,098 gal	ARB, 2014a
EMFAC category fuel combustion	2002	27,292,985 gal	ARB, 2014a
EMFAC category fuel combustion	2003	25,688,856 gal	ARB, 2014a
EMFAC category fuel combustion	2004	23,814,134 gal	ARB, 2014a
EMFAC category fuel combustion	2005	20,570,936 gal	ARB, 2014a
EMFAC category fuel combustion	2006	18,749,752 gal	ARB, 2014a
EMFAC category fuel combustion	2007	17,197,790 gal	ARB, 2014a
EMFAC category fuel combustion	2008	15,402,235 gal	ARB, 2014a
EMFAC category fuel combustion	2009	17,504,030 gal	ARB, 2014a
EMFAC category fuel combustion	2010	20,857,627 gal	ARB, 2014a
EMFAC category fuel combustion	2011	25,876,280 gal	ARB, 2014a
EMFAC category fuel combustion	2012	29,880,025 gal	ARB, 2014a
EMFAC category fuel combustion	2013	33,224,689 gal	ARB, 2014a
EMFAC category fuel combustion	2014	37,070,527 gal	ARB, 2014a
EMFAC CH4 emission	2000	15.35 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	13 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	11.83 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	10.41 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	9.29 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	7.72 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	6.73 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	5.87 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	5.01 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2009	4.65 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2010	4.37 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2011	3.98 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2012	3.64 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2013	3.31 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2014	3.09 Mg (tonnes)	ARB, 2014a
EMFAC total fuel combustion	2000	2,660,379,546 gal	ARB, 2014a
EMFAC total fuel combustion	2001	2,666,890,335 gal	ARB, 2014a
EMFAC total fuel combustion	2002	2,757,421,172 gal	ARB, 2014a
EMFAC total fuel combustion	2003	2,781,714,949 gal	ARB, 2014a
EMFAC total fuel combustion	2004	2,952,751,396 gal	ARB, 2014a
EMFAC total fuel combustion	2005	3,071,891,727 gal	ARB, 2014a
EMFAC total fuel combustion	2006	3,141,453,525 gal	ARB, 2014a
EMFAC total fuel combustion	2007	3,191,774,423 gal	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC total fuel combustion	2008	2,922,281,862 gal	ARB, 2014a
EMFAC total fuel combustion	2009	2,682,967,285 gal	ARB, 2014a
EMFAC total fuel combustion	2010	2,703,263,445 gal	ARB, 2014a
EMFAC total fuel combustion	2011	2,724,183,652 gal	ARB, 2014a
EMFAC total fuel combustion	2012	2,725,962,176 gal	ARB, 2014a
EMFAC total fuel combustion	2013	2,771,644,965 gal	ARB, 2014a
EMFAC total fuel combustion	2014	2,825,543,622 gal	ARB, 2014a
Fraction of fuel mix	2000	0.999	TSD On-road
Fraction of fuel mix	2001	0.999	TSD On-road
Fraction of fuel mix	2002	0.999	TSD On-road
Fraction of fuel mix	2003	1	TSD On-road
Fraction of fuel mix	2004	1	TSD On-road
Fraction of fuel mix	2005	0.999	TSD On-road
Fraction of fuel mix	2006	0.993	TSD On-road
Fraction of fuel mix	2007	0.994	TSD On-road
Fraction of fuel mix	2008	0.996	TSD On-road
Fraction of fuel mix	2009	0.997	TSD On-road
Fraction of fuel mix	2010	0.997	TSD On-road
Fraction of fuel mix	2011	0.992	TSD On-road
Fraction of fuel mix	2012	0.989	TSD On-road
Fraction of fuel mix	2013	0.933	TSD On-road
Fraction of fuel mix	2014	0.942	TSD On-road
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2001	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2002	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2003	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2004	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2005	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2006	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2007	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2008	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2009	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2010	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2011	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2012	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2013	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2014	0.332 g / gal	ARB, 2014b
Fuel sales	2000	2,632,760,095 gal	Covert, 2013
Fuel sales	2001	2,627,365,783 gal	Covert, 2013
Fuel sales	2002	2,700,122,539 gal	Covert, 2013

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel sales	2003	2,667,933,637 gal	BOE, 2015
Fuel sales	2004	2,842,332,046 gal	BOE, 2015
Fuel sales	2005	2,963,733,672 gal	BOE, 2015
Fuel sales	2006	2,994,049,134 gal	BOE, 2015
Fuel sales	2007	3,082,740,281 gal	BOE, 2015
Fuel sales	2008	2,827,526,205 gal	BOE, 2015
Fuel sales	2009	2,580,139,949 gal	BOE, 2015
Fuel sales	2010	2,590,655,088 gal	BOE, 2015
Fuel sales	2011	2,622,534,125 gal	BOE, 2015
Fuel sales	2012	2,603,545,631 gal	BOE, 2015
Fuel sales	2013	2,740,305,658 gal	BOE, 2015
Fuel sales	2014	2,776,180,358 gal	BOE, 2015
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b
Heat content	2014	138,000 btu / gal	USEPA, 2012b

Activity = Fuel combustion - Ethanol

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Ethanol	2000	27,114,972 gal	Calculation, see text
Fuel combustion - Ethanol	2001	35,804,879 gal	Calculation, see text
Fuel combustion - Ethanol	2002	42,818,641 gal	Calculation, see text
Fuel combustion - Ethanol	2003	240,813,323 gal	Calculation, see text
Fuel combustion - Ethanol	2004	360,167,928 gal	Calculation, see text
Fuel combustion - Ethanol	2005	375,348,482 gal	Calculation, see text
Fuel combustion - Ethanol	2006	369,939,004 gal	Calculation, see text
Fuel combustion - Ethanol	2007	366,114,978 gal	Calculation, see text
Fuel combustion - Ethanol	2008	385,869,812 gal	Calculation, see text
Fuel combustion - Ethanol	2009	392,083,174 gal	Calculation, see text
Fuel combustion - Ethanol	2010	605,966,727 gal	Calculation, see text
Fuel combustion - Ethanol	2011	647,790,754 gal	Calculation, see text
Fuel combustion - Ethanol	2012	606,246,308 gal	Calculation, see text
Fuel combustion - Ethanol	2013	697,285,615 gal	Calculation, see text
Fuel combustion - Ethanol	2014	763,177,344 gal	Calculation, see text
EMFAC category fuel combustion	2000	7,250,643,522 gal	ARB, 2014a
EMFAC category fuel combustion	2001	7,119,553,630 gal	ARB, 2014a
EMFAC category fuel combustion	2002	7,278,146,283 gal	ARB, 2014a
EMFAC category fuel combustion	2003	7,051,562,767 gal	ARB, 2014a
EMFAC category fuel combustion	2004	7,043,472,783 gal	ARB, 2014a
EMFAC category fuel combustion	2005	6,910,398,046 gal	ARB, 2014a
EMFAC category fuel combustion	2006	6,826,996,702 gal	ARB, 2014a
EMFAC category fuel combustion	2007	6,743,067,528 gal	ARB, 2014a
EMFAC category fuel combustion	2008	6,445,978,141 gal	ARB, 2014a
EMFAC category fuel combustion	2009	6,482,515,645 gal	ARB, 2014a
EMFAC category fuel combustion	2010	6,518,583,848 gal	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC category fuel combustion	2011	6,412,596,104 gal	ARB, 2014a
EMFAC category fuel combustion	2012	6,373,308,843 gal	ARB, 2014a
EMFAC category fuel combustion	2013	6,366,600,890 gal	ARB, 2014a
EMFAC category fuel combustion	2014	6,484,268,986 gal	ARB, 2014a
EMFAC CH4 emission	2000	11.09 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	9.67 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	8.57 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	7.39 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	9.06 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	7.46 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	6.49 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	5.59 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	4.79 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2009	4.41 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2010	4.03 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2011	3.58 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2012	3.19 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2013	2.85 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2014	2.56 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2000	150.19 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2001	130.39 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2002	117.04 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2003	101.79 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2004	88.21 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2005	74.28 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2006	65.24 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2007	56.99 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2008	49.46 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2009	46.07 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2010	42.6 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2011	38.23 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2012	34.39 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2013	30.92 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2014	28.05 Gg (thousand tonnes)	ARB, 2014a
EMFAC total fuel combustion	2000	14,854,521,063 gal	ARB, 2014a
EMFAC total fuel combustion	2001	14,974,619,512 gal	ARB, 2014a
EMFAC total fuel combustion	2002	15,623,665,999 gal	ARB, 2014a
EMFAC total fuel combustion	2003	15,849,299,959 gal	ARB, 2014a
EMFAC total fuel combustion	2004	16,172,230,459 gal	ARB, 2014a
EMFAC total fuel combustion	2005	16,189,185,002 gal	ARB, 2014a
EMFAC total fuel combustion	2006	16,143,192,555 gal	ARB, 2014a
EMFAC total fuel combustion	2007	15,977,349,137 gal	ARB, 2014a
EMFAC total fuel combustion	2008	15,311,004,402 gal	ARB, 2014a
EMFAC total fuel combustion	2009	15,189,522,999 gal	ARB, 2014a
EMFAC total fuel combustion	2010	15,184,580,322 gal	ARB, 2014a
EMFAC total fuel combustion	2011	14,885,198,863 gal	ARB, 2014a
EMFAC total fuel combustion	2012	14,593,712,753 gal	ARB, 2014a
EMFAC total fuel combustion	2013	14,374,193,920 gal	ARB, 2014a
EMFAC total fuel combustion	2014	14,440,544,810 gal	ARB, 2014a
Fraction of fuel mix	2000	3.763E-03	TSD On-road
Fraction of fuel mix	2001	5.063E-03	TSD On-road
Fraction of fuel mix	2002	5.931E-03	TSD On-road
Fraction of fuel mix	2003	0.0346	TSD On-road
Fraction of fuel mix	2004	0.0521	TSD On-road
Fraction of fuel mix	2005	0.0553	TSD On-road

Variables Used in the Emissions Estimation Equations

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Fraction of fuel mix	2006	0.0554	TSD On-road
Fraction of fuel mix	2007	0.0555	TSD On-road
Fraction of fuel mix	2008	0.0611	TSD On-road
Fraction of fuel mix	2009	0.0621	TSD On-road
Fraction of fuel mix	2010	0.095	TSD On-road
Fraction of fuel mix	2011	0.103	TSD On-road
Fraction of fuel mix	2012	0.0958	TSD On-road
Fraction of fuel mix	2013	0.108	TSD On-road
Fraction of fuel mix	2014	0.116	TSD On-road
Fuel CO2 emission	2000	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2001	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2002	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2003	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2004	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2005	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2006	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2007	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2008	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2009	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2010	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2011	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2012	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2013	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2014	0.0684 g / btu	TSD On-road
Fuel sales	2000	14,760,642,277 gal	Covert, 2013
Fuel sales	2001	14,873,287,328 gal	Covert, 2013
Fuel sales	2002	15,497,850,137 gal	Covert, 2013
Fuel sales	2003	15,660,106,873 gal	BOE, 2015
Fuel sales	2004	15,882,228,670 gal	BOE, 2015
Fuel sales	2005	15,912,767,049 gal	BOE, 2015
Fuel sales	2006	15,802,491,301 gal	BOE, 2015
Fuel sales	2007	15,644,532,462 gal	BOE, 2015
Fuel sales	2008	15,007,122,838 gal	BOE, 2015
Fuel sales	2009	14,791,632,891 gal	BOE, 2015
Fuel sales	2010	14,851,505,738 gal	BOE, 2015
Fuel sales	2011	14,583,411,578 gal	BOE, 2015
Fuel sales	2012	14,487,897,816 gal	BOE, 2015
Fuel sales	2013	14,516,519,877 gal	BOE, 2015
Fuel sales	2014	14,686,723,856 gal	BOE, 2015
Heat content	2000	84,000 btu / gal	USEPA, 2012b
Heat content	2001	84,000 btu / gal	USEPA, 2012b
Heat content	2002	84,000 btu / gal	USEPA, 2012b
Heat content	2003	84,000 btu / gal	USEPA, 2012b
Heat content	2004	84,000 btu / gal	USEPA, 2012b
Heat content	2005	84,000 btu / gal	USEPA, 2012b
Heat content	2006	84,000 btu / gal	USEPA, 2012b
Heat content	2007	84,000 btu / gal	USEPA, 2012b
Heat content	2008	84,000 btu / gal	USEPA, 2012b
Heat content	2009	84,000 btu / gal	USEPA, 2012b
Heat content	2010	84,000 btu / gal	USEPA, 2012b
Heat content	2011	84,000 btu / gal	USEPA, 2012b
Heat content	2012	84,000 btu / gal	USEPA, 2012b
Heat content	2013	84,000 btu / gal	USEPA, 2012b
Heat content	2014	84,000 btu / gal	USEPA, 2012b
N2O to NOx ratio	2000	0.0416 g / g	ARB, 2014b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

N2O to NOx ratio	2001	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2002	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2003	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2004	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2005	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2006	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2007	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2008	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2009	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2010	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2011	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2012	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2013	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2014	0.0416 g / g	ARB, 2014b

Activity = Fuel combustion - Gasoline

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Gasoline	2000	7,177,705,355 gal	Calculation, see text
Fuel combustion - Gasoline	2001	7,035,571,239 gal	Calculation, see text
Fuel combustion - Gasoline	2002	7,176,717,438 gal	Calculation, see text
Fuel combustion - Gasoline	2003	6,726,574,943 gal	Calculation, see text
Fuel combustion - Gasoline	2004	6,557,000,711 gal	Calculation, see text
Fuel combustion - Gasoline	2005	6,417,059,803 gal	Calculation, see text
Fuel combustion - Gasoline	2006	6,312,974,282 gal	Calculation, see text
Fuel combustion - Gasoline	2007	6,236,490,868 gal	Calculation, see text
Fuel combustion - Gasoline	2008	5,932,173,292 gal	Calculation, see text
Fuel combustion - Gasoline	2009	5,920,622,737 gal	Calculation, see text
Fuel combustion - Gasoline	2010	5,769,631,634 gal	Calculation, see text
Fuel combustion - Gasoline	2011	5,634,794,324 gal	Calculation, see text
Fuel combustion - Gasoline	2012	5,720,851,452 gal	Calculation, see text
Fuel combustion - Gasoline	2013	5,732,354,119 gal	Calculation, see text
Fuel combustion - Gasoline	2014	5,831,633,950 gal	Calculation, see text
EMFAC category fuel combustion	2000	7,250,643,522 gal	ARB, 2014a
EMFAC category fuel combustion	2001	7,119,553,630 gal	ARB, 2014a
EMFAC category fuel combustion	2002	7,278,146,283 gal	ARB, 2014a
EMFAC category fuel combustion	2003	7,051,562,767 gal	ARB, 2014a
EMFAC category fuel combustion	2004	7,043,472,783 gal	ARB, 2014a
EMFAC category fuel combustion	2005	6,910,398,046 gal	ARB, 2014a
EMFAC category fuel combustion	2006	6,826,996,702 gal	ARB, 2014a
EMFAC category fuel combustion	2007	6,743,067,528 gal	ARB, 2014a
EMFAC category fuel combustion	2008	6,445,978,141 gal	ARB, 2014a
EMFAC category fuel combustion	2009	6,482,515,645 gal	ARB, 2014a
EMFAC category fuel combustion	2010	6,518,583,848 gal	ARB, 2014a
EMFAC category fuel combustion	2011	6,412,596,104 gal	ARB, 2014a
EMFAC category fuel combustion	2012	6,373,308,843 gal	ARB, 2014a
EMFAC category fuel combustion	2013	6,366,600,890 gal	ARB, 2014a
EMFAC category fuel combustion	2014	6,484,268,986 gal	ARB, 2014a
EMFAC CH4 emission	2000	11.09 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	9.67 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	8.57 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	7.39 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	9.06 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	7.46 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	6.49 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	5.59 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	4.79 Gg (thousand tonnes)	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC CH4 emission	2009	4.41 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2010	4.03 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2011	3.58 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2012	3.19 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2013	2.85 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2014	2.56 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2000	150.19 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2001	130.39 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2002	117.04 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2003	101.79 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2004	88.21 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2005	74.28 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2006	65.24 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2007	56.99 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2008	49.46 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2009	46.07 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2010	42.6 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2011	38.23 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2012	34.39 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2013	30.92 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2014	28.05 Gg (thousand tonnes)	ARB, 2014a
EMFAC total fuel combustion	2000	14,854,521,063 gal	ARB, 2014a
EMFAC total fuel combustion	2001	14,974,619,512 gal	ARB, 2014a
EMFAC total fuel combustion	2002	15,623,665,999 gal	ARB, 2014a
EMFAC total fuel combustion	2003	15,849,299,959 gal	ARB, 2014a
EMFAC total fuel combustion	2004	16,172,230,459 gal	ARB, 2014a
EMFAC total fuel combustion	2005	16,189,185,002 gal	ARB, 2014a
EMFAC total fuel combustion	2006	16,143,192,555 gal	ARB, 2014a
EMFAC total fuel combustion	2007	15,977,349,137 gal	ARB, 2014a
EMFAC total fuel combustion	2008	15,311,004,402 gal	ARB, 2014a
EMFAC total fuel combustion	2009	15,189,522,999 gal	ARB, 2014a
EMFAC total fuel combustion	2010	15,184,580,322 gal	ARB, 2014a
EMFAC total fuel combustion	2011	14,885,198,863 gal	ARB, 2014a
EMFAC total fuel combustion	2012	14,593,712,753 gal	ARB, 2014a
EMFAC total fuel combustion	2013	14,374,193,920 gal	ARB, 2014a
EMFAC total fuel combustion	2014	14,440,544,810 gal	ARB, 2014a
Fraction of fuel mix	2000	0.996	TSD On-road
Fraction of fuel mix	2001	0.995	TSD On-road
Fraction of fuel mix	2002	0.994	TSD On-road
Fraction of fuel mix	2003	0.965	TSD On-road
Fraction of fuel mix	2004	0.948	TSD On-road
Fraction of fuel mix	2005	0.945	TSD On-road
Fraction of fuel mix	2006	0.945	TSD On-road
Fraction of fuel mix	2007	0.945	TSD On-road
Fraction of fuel mix	2008	0.939	TSD On-road
Fraction of fuel mix	2009	0.938	TSD On-road
Fraction of fuel mix	2010	0.905	TSD On-road
Fraction of fuel mix	2011	0.897	TSD On-road
Fraction of fuel mix	2012	0.904	TSD On-road
Fraction of fuel mix	2013	0.892	TSD On-road
Fraction of fuel mix	2014	0.884	TSD On-road
Fuel CO2 emission	2000	0.0709 g / btu	TSD On-road
Fuel CO2 emission	2001	0.0709 g / btu	TSD On-road
Fuel CO2 emission	2002	0.0711 g / btu	TSD On-road
Fuel CO2 emission	2003	0.071 g / btu	TSD On-road

Variables Used in the Emissions Estimation Equations

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Fuel CO2 emission	2004	0.0711 g / btu	TSD On-road
Fuel CO2 emission	2005	0.071 g / btu	TSD On-road
Fuel CO2 emission	2006	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2007	0.0717 g / btu	TSD On-road
Fuel CO2 emission	2008	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2009	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2010	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2011	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2012	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2013	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2014	0.0713 g / btu	TSD On-road
Fuel sales	2000	14,760,642,277 gal	Covert, 2013
Fuel sales	2001	14,873,287,328 gal	Covert, 2013
Fuel sales	2002	15,497,850,137 gal	Covert, 2013
Fuel sales	2003	15,660,106,873 gal	BOE, 2015
Fuel sales	2004	15,882,228,670 gal	BOE, 2015
Fuel sales	2005	15,912,767,049 gal	BOE, 2015
Fuel sales	2006	15,802,491,301 gal	BOE, 2015
Fuel sales	2007	15,644,532,462 gal	BOE, 2015
Fuel sales	2008	15,007,122,838 gal	BOE, 2015
Fuel sales	2009	14,791,632,891 gal	BOE, 2015
Fuel sales	2010	14,851,505,738 gal	BOE, 2015
Fuel sales	2011	14,583,411,578 gal	BOE, 2015
Fuel sales	2012	14,487,897,816 gal	BOE, 2015
Fuel sales	2013	14,516,519,877 gal	BOE, 2015
Fuel sales	2014	14,686,723,856 gal	BOE, 2015
Heat content	2000	125,000 btu / gal	USEPA, 2012b
Heat content	2001	125,000 btu / gal	USEPA, 2012b
Heat content	2002	125,000 btu / gal	USEPA, 2012b
Heat content	2003	125,000 btu / gal	USEPA, 2012b
Heat content	2004	125,000 btu / gal	USEPA, 2012b
Heat content	2005	125,000 btu / gal	USEPA, 2012b
Heat content	2006	125,000 btu / gal	USEPA, 2012b
Heat content	2007	125,000 btu / gal	USEPA, 2012b
Heat content	2008	125,000 btu / gal	USEPA, 2012b
Heat content	2009	125,000 btu / gal	USEPA, 2012b
Heat content	2010	125,000 btu / gal	USEPA, 2012b
Heat content	2011	125,000 btu / gal	USEPA, 2012b
Heat content	2012	125,000 btu / gal	USEPA, 2012b
Heat content	2013	125,000 btu / gal	USEPA, 2012b
Heat content	2014	125,000 btu / gal	USEPA, 2012b
N2O to NOx ratio	2000	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2001	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2002	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2003	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2004	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2005	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2006	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2007	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2008	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2009	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2010	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2011	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2012	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2013	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2014	0.0416 g / g	ARB, 2014b

Activity = Fuel combustion - Renewable Diesel

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Renewable Diesel	2000	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2001	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2002	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2003	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2004	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2005	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2006	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2007	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2008	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2009	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2010	15,201 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2011	17,131 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2012	99,815 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2013	1,627,665 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2014	1,371,642 gal	Calculation, see text
EMFAC category fuel combustion	2000	32,440,081 gal	ARB, 2014a
EMFAC category fuel combustion	2001	28,233,098 gal	ARB, 2014a
EMFAC category fuel combustion	2002	27,292,985 gal	ARB, 2014a
EMFAC category fuel combustion	2003	25,688,856 gal	ARB, 2014a
EMFAC category fuel combustion	2004	23,814,134 gal	ARB, 2014a
EMFAC category fuel combustion	2005	20,570,936 gal	ARB, 2014a
EMFAC category fuel combustion	2006	18,749,752 gal	ARB, 2014a
EMFAC category fuel combustion	2007	17,197,790 gal	ARB, 2014a
EMFAC category fuel combustion	2008	15,402,235 gal	ARB, 2014a
EMFAC category fuel combustion	2009	17,504,030 gal	ARB, 2014a
EMFAC category fuel combustion	2010	20,857,627 gal	ARB, 2014a
EMFAC category fuel combustion	2011	25,876,280 gal	ARB, 2014a
EMFAC category fuel combustion	2012	29,880,025 gal	ARB, 2014a
EMFAC category fuel combustion	2013	33,224,689 gal	ARB, 2014a
EMFAC category fuel combustion	2014	37,070,527 gal	ARB, 2014a
EMFAC CH4 emission	2000	15.35 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	13 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	11.83 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	10.41 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	9.29 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	7.72 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	6.73 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	5.87 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	5.01 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2009	4.65 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2010	4.37 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2011	3.98 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2012	3.64 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2013	3.31 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2014	3.09 Mg (tonnes)	ARB, 2014a
EMFAC total fuel combustion	2000	2,660,379,546 gal	ARB, 2014a
EMFAC total fuel combustion	2001	2,666,890,335 gal	ARB, 2014a
EMFAC total fuel combustion	2002	2,757,421,172 gal	ARB, 2014a
EMFAC total fuel combustion	2003	2,781,714,949 gal	ARB, 2014a
EMFAC total fuel combustion	2004	2,952,751,396 gal	ARB, 2014a
EMFAC total fuel combustion	2005	3,071,891,727 gal	ARB, 2014a
EMFAC total fuel combustion	2006	3,141,453,525 gal	ARB, 2014a
EMFAC total fuel combustion	2007	3,191,774,423 gal	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC total fuel combustion	2008	2,922,281,862 gal	ARB, 2014a
EMFAC total fuel combustion	2009	2,682,967,285 gal	ARB, 2014a
EMFAC total fuel combustion	2010	2,703,263,445 gal	ARB, 2014a
EMFAC total fuel combustion	2011	2,724,183,652 gal	ARB, 2014a
EMFAC total fuel combustion	2012	2,725,962,176 gal	ARB, 2014a
EMFAC total fuel combustion	2013	2,771,644,965 gal	ARB, 2014a
EMFAC total fuel combustion	2014	2,825,543,622 gal	ARB, 2014a
Fraction of fuel mix	2000	0	TSD On-road
Fraction of fuel mix	2001	0	TSD On-road
Fraction of fuel mix	2002	0	TSD On-road
Fraction of fuel mix	2003	0	TSD On-road
Fraction of fuel mix	2004	0	TSD On-road
Fraction of fuel mix	2005	0	TSD On-road
Fraction of fuel mix	2006	0	TSD On-road
Fraction of fuel mix	2007	0	TSD On-road
Fraction of fuel mix	2008	0	TSD On-road
Fraction of fuel mix	2009	0	TSD On-road
Fraction of fuel mix	2010	7.605E-04	TSD On-road
Fraction of fuel mix	2011	6.877E-04	TSD On-road
Fraction of fuel mix	2012	3.498E-03	TSD On-road
Fraction of fuel mix	2013	0.0495	TSD On-road
Fraction of fuel mix	2014	0.0377	TSD On-road
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2001	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2002	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2003	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2004	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2005	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2006	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2007	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2008	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2009	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2010	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2011	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2012	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2013	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2014	0.332 g / gal	ARB, 2014b
Fuel sales	2000	2,632,760,095 gal	Covert, 2013
Fuel sales	2001	2,627,365,783 gal	Covert, 2013
Fuel sales	2002	2,700,122,539 gal	Covert, 2013

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel sales	2003	2,667,933,637 gal	BOE, 2015
Fuel sales	2004	2,842,332,046 gal	BOE, 2015
Fuel sales	2005	2,963,733,672 gal	BOE, 2015
Fuel sales	2006	2,994,049,134 gal	BOE, 2015
Fuel sales	2007	3,082,740,281 gal	BOE, 2015
Fuel sales	2008	2,827,526,205 gal	BOE, 2015
Fuel sales	2009	2,580,139,949 gal	BOE, 2015
Fuel sales	2010	2,590,655,088 gal	BOE, 2015
Fuel sales	2011	2,622,534,125 gal	BOE, 2015
Fuel sales	2012	2,603,545,631 gal	BOE, 2015
Fuel sales	2013	2,740,305,658 gal	BOE, 2015
Fuel sales	2014	2,776,180,358 gal	BOE, 2015
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b
Heat content	2014	138,000 btu / gal	USEPA, 2012b

IPCC category = 1A3bii — Fuel Combustion Activities - Transport - Road Transportation - Light-duty Trucks

► Sector = On Road : Light-duty Vehicles : Light-duty Trucks & SUVs

Activity = Fuel combustion - Biodiesel

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Biodiesel	2000	6,775 gal	Calculation, see text
Fuel combustion - Biodiesel	2001	7,253 gal	Calculation, see text
Fuel combustion - Biodiesel	2002	11,213 gal	Calculation, see text
Fuel combustion - Biodiesel	2003	2,227 gal	Calculation, see text
Fuel combustion - Biodiesel	2004	3,288 gal	Calculation, see text
Fuel combustion - Biodiesel	2005	4,459 gal	Calculation, see text
Fuel combustion - Biodiesel	2006	29,374 gal	Calculation, see text
Fuel combustion - Biodiesel	2007	23,407 gal	Calculation, see text
Fuel combustion - Biodiesel	2008	15,644 gal	Calculation, see text
Fuel combustion - Biodiesel	2009	13,747 gal	Calculation, see text
Fuel combustion - Biodiesel	2010	14,353 gal	Calculation, see text
Fuel combustion - Biodiesel	2011	71,034 gal	Calculation, see text
Fuel combustion - Biodiesel	2012	125,070 gal	Calculation, see text
Fuel combustion - Biodiesel	2013	348,778 gal	Calculation, see text
Fuel combustion - Biodiesel	2014	461,092 gal	Calculation, see text
EMFAC category fuel combustion	2000	9,012,624 gal	ARB, 2014a
EMFAC category fuel combustion	2001	7,736,804 gal	ARB, 2014a
EMFAC category fuel combustion	2002	7,729,605 gal	ARB, 2014a
EMFAC category fuel combustion	2003	6,882,961 gal	ARB, 2014a
EMFAC category fuel combustion	2004	6,935,228 gal	ARB, 2014a
EMFAC category fuel combustion	2005	5,329,098 gal	ARB, 2014a
EMFAC category fuel combustion	2006	4,705,573 gal	ARB, 2014a
EMFAC category fuel combustion	2007	4,279,066 gal	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC category fuel combustion	2008	3,906,687 gal	ARB, 2014a
EMFAC category fuel combustion	2009	5,328,984 gal	ARB, 2014a
EMFAC category fuel combustion	2010	7,187,644 gal	ARB, 2014a
EMFAC category fuel combustion	2011	10,625,927 gal	ARB, 2014a
EMFAC category fuel combustion	2012	16,649,126 gal	ARB, 2014a
EMFAC category fuel combustion	2013	19,740,850 gal	ARB, 2014a
EMFAC category fuel combustion	2014	22,893,458 gal	ARB, 2014a
EMFAC CH4 emission	2000	2.58 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	2.19 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	2.03 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	1.81 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	1.68 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	1.38 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	1.22 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	1.07 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	932.93 kg	ARB, 2014a
EMFAC CH4 emission	2009	869.56 kg	ARB, 2014a
EMFAC CH4 emission	2010	831.06 kg	ARB, 2014a
EMFAC CH4 emission	2011	783.65 kg	ARB, 2014a
EMFAC CH4 emission	2012	825.8 kg	ARB, 2014a
EMFAC CH4 emission	2013	782.26 kg	ARB, 2014a
EMFAC CH4 emission	2014	766.06 kg	ARB, 2014a
EMFAC total fuel combustion	2000	2,660,379,546 gal	ARB, 2014a
EMFAC total fuel combustion	2001	2,666,890,335 gal	ARB, 2014a
EMFAC total fuel combustion	2002	2,757,421,172 gal	ARB, 2014a
EMFAC total fuel combustion	2003	2,781,714,949 gal	ARB, 2014a
EMFAC total fuel combustion	2004	2,952,751,396 gal	ARB, 2014a
EMFAC total fuel combustion	2005	3,071,891,727 gal	ARB, 2014a
EMFAC total fuel combustion	2006	3,141,453,525 gal	ARB, 2014a
EMFAC total fuel combustion	2007	3,191,774,423 gal	ARB, 2014a
EMFAC total fuel combustion	2008	2,922,281,862 gal	ARB, 2014a
EMFAC total fuel combustion	2009	2,682,967,285 gal	ARB, 2014a
EMFAC total fuel combustion	2010	2,703,263,445 gal	ARB, 2014a
EMFAC total fuel combustion	2011	2,724,183,652 gal	ARB, 2014a
EMFAC total fuel combustion	2012	2,725,962,176 gal	ARB, 2014a
EMFAC total fuel combustion	2013	2,771,644,965 gal	ARB, 2014a
EMFAC total fuel combustion	2014	2,825,543,622 gal	ARB, 2014a
Fraction of fuel mix	2000	7.597E-04	TSD On-road
Fraction of fuel mix	2001	9.515E-04	TSD On-road
Fraction of fuel mix	2002	1.481E-03	TSD On-road
Fraction of fuel mix	2003	3.373E-04	TSD On-road
Fraction of fuel mix	2004	4.926E-04	TSD On-road
Fraction of fuel mix	2005	8.673E-04	TSD On-road
Fraction of fuel mix	2006	6.550E-03	TSD On-road
Fraction of fuel mix	2007	5.663E-03	TSD On-road
Fraction of fuel mix	2008	4.139E-03	TSD On-road
Fraction of fuel mix	2009	2.682E-03	TSD On-road
Fraction of fuel mix	2010	2.084E-03	TSD On-road
Fraction of fuel mix	2011	6.944E-03	TSD On-road
Fraction of fuel mix	2012	7.865E-03	TSD On-road
Fraction of fuel mix	2013	0.0179	TSD On-road
Fraction of fuel mix	2014	0.0205	TSD On-road
Fuel CO2 emission	2000	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0738 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CO2 emission	2003	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.0738 g / btu	USEPA, 2012b
Fuel N2O emission	2000	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2001	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2002	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2003	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2004	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2005	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2006	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2007	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2008	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2009	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2010	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2011	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2012	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2013	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2014	0.332 g / gal	ARB, 2014b
Fuel sales	2000	2,632,760,095 gal	Covert, 2013
Fuel sales	2001	2,627,365,783 gal	Covert, 2013
Fuel sales	2002	2,700,122,539 gal	Covert, 2013
Fuel sales	2003	2,667,933,637 gal	BOE, 2015
Fuel sales	2004	2,842,332,046 gal	BOE, 2015
Fuel sales	2005	2,963,733,672 gal	BOE, 2015
Fuel sales	2006	2,994,049,134 gal	BOE, 2015
Fuel sales	2007	3,082,740,281 gal	BOE, 2015
Fuel sales	2008	2,827,526,205 gal	BOE, 2015
Fuel sales	2009	2,580,139,949 gal	BOE, 2015
Fuel sales	2010	2,590,655,088 gal	BOE, 2015
Fuel sales	2011	2,622,534,125 gal	BOE, 2015
Fuel sales	2012	2,603,545,631 gal	BOE, 2015
Fuel sales	2013	2,740,305,658 gal	BOE, 2015
Fuel sales	2014	2,776,180,358 gal	BOE, 2015
Heat content	2000	128,000 btu / gal	USEPA, 2012b
Heat content	2001	128,000 btu / gal	USEPA, 2012b
Heat content	2002	128,000 btu / gal	USEPA, 2012b
Heat content	2003	128,000 btu / gal	USEPA, 2012b
Heat content	2004	128,000 btu / gal	USEPA, 2012b
Heat content	2005	128,000 btu / gal	USEPA, 2012b
Heat content	2006	128,000 btu / gal	USEPA, 2012b
Heat content	2007	128,000 btu / gal	USEPA, 2012b
Heat content	2008	128,000 btu / gal	USEPA, 2012b
Heat content	2009	128,000 btu / gal	USEPA, 2012b
Heat content	2010	128,000 btu / gal	USEPA, 2012b
Heat content	2011	128,000 btu / gal	USEPA, 2012b
Heat content	2012	128,000 btu / gal	USEPA, 2012b
Heat content	2013	128,000 btu / gal	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Heat content	2014	128,000 btu / gal	USEPA, 2012b
Activity = Fuel combustion - Distillate			
- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Distillate	2000	8,912,282 gal	Calculation, see text
Fuel combustion - Distillate	2001	7,614,888 gal	Calculation, see text
Fuel combustion - Distillate	2002	7,557,773 gal	Calculation, see text
Fuel combustion - Distillate	2003	6,599,198 gal	Calculation, see text
Fuel combustion - Distillate	2004	6,672,594 gal	Calculation, see text
Fuel combustion - Distillate	2005	5,137,007 gal	Calculation, see text
Fuel combustion - Distillate	2006	4,455,402 gal	Calculation, see text
Fuel combustion - Distillate	2007	4,109,483 gal	Calculation, see text
Fuel combustion - Distillate	2008	3,764,367 gal	Calculation, see text
Fuel combustion - Distillate	2009	5,110,998 gal	Calculation, see text
Fuel combustion - Distillate	2010	6,868,641 gal	Calculation, see text
Fuel combustion - Distillate	2011	10,151,365 gal	Calculation, see text
Fuel combustion - Distillate	2012	15,720,766 gal	Calculation, see text
Fuel combustion - Distillate	2013	18,201,763 gal	Calculation, see text
Fuel combustion - Distillate	2014	21,185,331 gal	Calculation, see text
EMFAC category fuel combustion	2000	9,012,624 gal	ARB, 2014a
EMFAC category fuel combustion	2001	7,736,804 gal	ARB, 2014a
EMFAC category fuel combustion	2002	7,729,605 gal	ARB, 2014a
EMFAC category fuel combustion	2003	6,882,961 gal	ARB, 2014a
EMFAC category fuel combustion	2004	6,935,228 gal	ARB, 2014a
EMFAC category fuel combustion	2005	5,329,098 gal	ARB, 2014a
EMFAC category fuel combustion	2006	4,705,573 gal	ARB, 2014a
EMFAC category fuel combustion	2007	4,279,066 gal	ARB, 2014a
EMFAC category fuel combustion	2008	3,906,687 gal	ARB, 2014a
EMFAC category fuel combustion	2009	5,328,984 gal	ARB, 2014a
EMFAC category fuel combustion	2010	7,187,644 gal	ARB, 2014a
EMFAC category fuel combustion	2011	10,625,927 gal	ARB, 2014a
EMFAC category fuel combustion	2012	16,649,126 gal	ARB, 2014a
EMFAC category fuel combustion	2013	19,740,850 gal	ARB, 2014a
EMFAC category fuel combustion	2014	22,893,458 gal	ARB, 2014a
EMFAC CH4 emission	2000	2.58 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	2.19 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	2.03 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	1.81 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	1.68 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	1.38 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	1.22 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	1.07 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	932.93 kg	ARB, 2014a
EMFAC CH4 emission	2009	869.56 kg	ARB, 2014a
EMFAC CH4 emission	2010	831.06 kg	ARB, 2014a
EMFAC CH4 emission	2011	783.65 kg	ARB, 2014a
EMFAC CH4 emission	2012	825.8 kg	ARB, 2014a
EMFAC CH4 emission	2013	782.26 kg	ARB, 2014a
EMFAC CH4 emission	2014	766.06 kg	ARB, 2014a
EMFAC total fuel combustion	2000	2,660,379,546 gal	ARB, 2014a
EMFAC total fuel combustion	2001	2,666,890,335 gal	ARB, 2014a
EMFAC total fuel combustion	2002	2,757,421,172 gal	ARB, 2014a
EMFAC total fuel combustion	2003	2,781,714,949 gal	ARB, 2014a
EMFAC total fuel combustion	2004	2,952,751,396 gal	ARB, 2014a
EMFAC total fuel combustion	2005	3,071,891,727 gal	ARB, 2014a
EMFAC total fuel combustion	2006	3,141,453,525 gal	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC total fuel combustion	2007	3,191,774,423 gal	ARB, 2014a
EMFAC total fuel combustion	2008	2,922,281,862 gal	ARB, 2014a
EMFAC total fuel combustion	2009	2,682,967,285 gal	ARB, 2014a
EMFAC total fuel combustion	2010	2,703,263,445 gal	ARB, 2014a
EMFAC total fuel combustion	2011	2,724,183,652 gal	ARB, 2014a
EMFAC total fuel combustion	2012	2,725,962,176 gal	ARB, 2014a
EMFAC total fuel combustion	2013	2,771,644,965 gal	ARB, 2014a
EMFAC total fuel combustion	2014	2,825,543,622 gal	ARB, 2014a
Fraction of fuel mix	2000	0.999	TSD On-road
Fraction of fuel mix	2001	0.999	TSD On-road
Fraction of fuel mix	2002	0.999	TSD On-road
Fraction of fuel mix	2003	1	TSD On-road
Fraction of fuel mix	2004	1	TSD On-road
Fraction of fuel mix	2005	0.999	TSD On-road
Fraction of fuel mix	2006	0.993	TSD On-road
Fraction of fuel mix	2007	0.994	TSD On-road
Fraction of fuel mix	2008	0.996	TSD On-road
Fraction of fuel mix	2009	0.997	TSD On-road
Fraction of fuel mix	2010	0.997	TSD On-road
Fraction of fuel mix	2011	0.992	TSD On-road
Fraction of fuel mix	2012	0.989	TSD On-road
Fraction of fuel mix	2013	0.933	TSD On-road
Fraction of fuel mix	2014	0.942	TSD On-road
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2001	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2002	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2003	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2004	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2005	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2006	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2007	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2008	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2009	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2010	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2011	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2012	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2013	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2014	0.332 g / gal	ARB, 2014b
Fuel sales	2000	2,632,760,095 gal	Covert, 2013
Fuel sales	2001	2,627,365,783 gal	Covert, 2013

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel sales	2002	2,700,122,539 gal	Covert, 2013
Fuel sales	2003	2,667,933,637 gal	BOE, 2015
Fuel sales	2004	2,842,332,046 gal	BOE, 2015
Fuel sales	2005	2,963,733,672 gal	BOE, 2015
Fuel sales	2006	2,994,049,134 gal	BOE, 2015
Fuel sales	2007	3,082,740,281 gal	BOE, 2015
Fuel sales	2008	2,827,526,205 gal	BOE, 2015
Fuel sales	2009	2,580,139,949 gal	BOE, 2015
Fuel sales	2010	2,590,655,088 gal	BOE, 2015
Fuel sales	2011	2,622,534,125 gal	BOE, 2015
Fuel sales	2012	2,603,545,631 gal	BOE, 2015
Fuel sales	2013	2,740,305,658 gal	BOE, 2015
Fuel sales	2014	2,776,180,358 gal	BOE, 2015
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b
Heat content	2014	138,000 btu / gal	USEPA, 2012b

Activity = Fuel combustion - Ethanol

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Ethanol	2000	24,293,732 gal	Calculation, see text
Fuel combustion - Ethanol	2001	33,975,317 gal	Calculation, see text
Fuel combustion - Ethanol	2002	42,284,928 gal	Calculation, see text
Fuel combustion - Ethanol	2003	258,751,232 gal	Calculation, see text
Fuel combustion - Ethanol	2004	403,521,178 gal	Calculation, see text
Fuel combustion - Ethanol	2005	438,553,874 gal	Calculation, see text
Fuel combustion - Ethanol	2006	438,414,518 gal	Calculation, see text
Fuel combustion - Ethanol	2007	436,400,010 gal	Calculation, see text
Fuel combustion - Ethanol	2008	462,751,915 gal	Calculation, see text
Fuel combustion - Ethanol	2009	461,440,324 gal	Calculation, see text
Fuel combustion - Ethanol	2010	709,012,869 gal	Calculation, see text
Fuel combustion - Ethanol	2011	756,895,924 gal	Calculation, see text
Fuel combustion - Ethanol	2012	694,109,661 gal	Calculation, see text
Fuel combustion - Ethanol	2013	781,608,091 gal	Calculation, see text
Fuel combustion - Ethanol	2014	837,462,517 gal	Calculation, see text
EMFAC category fuel combustion	2000	6,496,233,519 gal	ARB, 2014a
EMFAC category fuel combustion	2001	6,755,757,768 gal	ARB, 2014a
EMFAC category fuel combustion	2002	7,187,427,814 gal	ARB, 2014a
EMFAC category fuel combustion	2003	7,576,825,600 gal	ARB, 2014a
EMFAC category fuel combustion	2004	7,891,292,395 gal	ARB, 2014a
EMFAC category fuel combustion	2005	8,074,048,462 gal	ARB, 2014a
EMFAC category fuel combustion	2006	8,090,670,184 gal	ARB, 2014a
EMFAC category fuel combustion	2007	8,037,569,914 gal	ARB, 2014a
EMFAC category fuel combustion	2008	7,730,298,250 gal	ARB, 2014a
EMFAC category fuel combustion	2009	7,629,233,595 gal	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC category fuel combustion	2010	7,627,085,162 gal	ARB, 2014a
EMFAC category fuel combustion	2011	7,492,647,623 gal	ARB, 2014a
EMFAC category fuel combustion	2012	7,296,993,290 gal	ARB, 2014a
EMFAC category fuel combustion	2013	7,136,511,441 gal	ARB, 2014a
EMFAC category fuel combustion	2014	7,115,426,405 gal	ARB, 2014a
EMFAC CH4 emission	2000	8.62 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	7.76 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	7.03 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	6.59 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	8.36 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	7.35 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	6.61 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	5.9 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	5.25 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2009	4.9 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2010	4.64 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2011	4.26 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2012	3.88 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2013	3.53 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2014	3.25 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2000	166.11 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2001	150.44 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2002	138.64 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2003	131.32 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2004	116.6 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2005	103.8 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2006	93.4 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2007	83.78 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2008	74.91 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2009	70.19 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2010	66.52 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2011	61.04 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2012	55.61 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2013	50.41 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2014	46.08 Gg (thousand tonnes)	ARB, 2014a
EMFAC total fuel combustion	2000	14,854,521,063 gal	ARB, 2014a
EMFAC total fuel combustion	2001	14,974,619,512 gal	ARB, 2014a
EMFAC total fuel combustion	2002	15,623,665,999 gal	ARB, 2014a
EMFAC total fuel combustion	2003	15,849,299,959 gal	ARB, 2014a
EMFAC total fuel combustion	2004	16,172,230,459 gal	ARB, 2014a
EMFAC total fuel combustion	2005	16,189,185,002 gal	ARB, 2014a
EMFAC total fuel combustion	2006	16,143,192,555 gal	ARB, 2014a
EMFAC total fuel combustion	2007	15,977,349,137 gal	ARB, 2014a
EMFAC total fuel combustion	2008	15,311,004,402 gal	ARB, 2014a
EMFAC total fuel combustion	2009	15,189,522,999 gal	ARB, 2014a
EMFAC total fuel combustion	2010	15,184,580,322 gal	ARB, 2014a
EMFAC total fuel combustion	2011	14,885,198,863 gal	ARB, 2014a
EMFAC total fuel combustion	2012	14,593,712,753 gal	ARB, 2014a
EMFAC total fuel combustion	2013	14,374,193,920 gal	ARB, 2014a
EMFAC total fuel combustion	2014	14,440,544,810 gal	ARB, 2014a
Fraction of fuel mix	2000	3.763E-03	TSD On-road
Fraction of fuel mix	2001	5.063E-03	TSD On-road
Fraction of fuel mix	2002	5.931E-03	TSD On-road
Fraction of fuel mix	2003	0.0346	TSD On-road
Fraction of fuel mix	2004	0.0521	TSD On-road

Variables Used in the Emissions Estimation Equations

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Fraction of fuel mix	2005	0.0553	TSD On-road
Fraction of fuel mix	2006	0.0554	TSD On-road
Fraction of fuel mix	2007	0.0555	TSD On-road
Fraction of fuel mix	2008	0.0611	TSD On-road
Fraction of fuel mix	2009	0.0621	TSD On-road
Fraction of fuel mix	2010	0.095	TSD On-road
Fraction of fuel mix	2011	0.103	TSD On-road
Fraction of fuel mix	2012	0.0958	TSD On-road
Fraction of fuel mix	2013	0.108	TSD On-road
Fraction of fuel mix	2014	0.116	TSD On-road
Fuel CO2 emission	2000	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2001	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2002	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2003	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2004	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2005	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2006	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2007	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2008	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2009	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2010	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2011	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2012	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2013	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2014	0.0684 g / btu	TSD On-road
Fuel sales	2000	14,760,642,277 gal	Covert, 2013
Fuel sales	2001	14,873,287,328 gal	Covert, 2013
Fuel sales	2002	15,497,850,137 gal	Covert, 2013
Fuel sales	2003	15,660,106,873 gal	BOE, 2015
Fuel sales	2004	15,882,228,670 gal	BOE, 2015
Fuel sales	2005	15,912,767,049 gal	BOE, 2015
Fuel sales	2006	15,802,491,301 gal	BOE, 2015
Fuel sales	2007	15,644,532,462 gal	BOE, 2015
Fuel sales	2008	15,007,122,838 gal	BOE, 2015
Fuel sales	2009	14,791,632,891 gal	BOE, 2015
Fuel sales	2010	14,851,505,738 gal	BOE, 2015
Fuel sales	2011	14,583,411,578 gal	BOE, 2015
Fuel sales	2012	14,487,897,816 gal	BOE, 2015
Fuel sales	2013	14,516,519,877 gal	BOE, 2015
Fuel sales	2014	14,686,723,856 gal	BOE, 2015
Heat content	2000	84,000 btu / gal	USEPA, 2012b
Heat content	2001	84,000 btu / gal	USEPA, 2012b
Heat content	2002	84,000 btu / gal	USEPA, 2012b
Heat content	2003	84,000 btu / gal	USEPA, 2012b
Heat content	2004	84,000 btu / gal	USEPA, 2012b
Heat content	2005	84,000 btu / gal	USEPA, 2012b
Heat content	2006	84,000 btu / gal	USEPA, 2012b
Heat content	2007	84,000 btu / gal	USEPA, 2012b
Heat content	2008	84,000 btu / gal	USEPA, 2012b
Heat content	2009	84,000 btu / gal	USEPA, 2012b
Heat content	2010	84,000 btu / gal	USEPA, 2012b
Heat content	2011	84,000 btu / gal	USEPA, 2012b
Heat content	2012	84,000 btu / gal	USEPA, 2012b
Heat content	2013	84,000 btu / gal	USEPA, 2012b
Heat content	2014	84,000 btu / gal	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

N2O to NOx ratio	2000	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2001	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2002	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2003	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2004	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2005	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2006	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2007	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2008	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2009	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2010	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2011	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2012	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2013	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2014	0.0416 g / g	ARB, 2014b

Activity = Fuel combustion - Gasoline

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Gasoline	2000	6,430,884,373 gal	Calculation, see text
Fuel combustion - Gasoline	2001	6,676,066,720 gal	Calculation, see text
Fuel combustion - Gasoline	2002	7,087,263,229 gal	Calculation, see text
Fuel combustion - Gasoline	2003	7,227,629,805 gal	Calculation, see text
Fuel combustion - Gasoline	2004	7,346,263,902 gal	Calculation, see text
Fuel combustion - Gasoline	2005	7,497,636,386 gal	Calculation, see text
Fuel combustion - Gasoline	2006	7,481,502,485 gal	Calculation, see text
Fuel combustion - Gasoline	2007	7,433,743,051 gal	Calculation, see text
Fuel combustion - Gasoline	2008	7,114,121,056 gal	Calculation, see text
Fuel combustion - Gasoline	2009	6,967,945,219 gal	Calculation, see text
Fuel combustion - Gasoline	2010	6,750,771,771 gal	Calculation, see text
Fuel combustion - Gasoline	2011	6,583,843,363 gal	Calculation, see text
Fuel combustion - Gasoline	2012	6,549,975,168 gal	Calculation, see text
Fuel combustion - Gasoline	2013	6,425,565,456 gal	Calculation, see text
Fuel combustion - Gasoline	2014	6,399,266,021 gal	Calculation, see text
EMFAC category fuel combustion	2000	6,496,233,519 gal	ARB, 2014a
EMFAC category fuel combustion	2001	6,755,757,768 gal	ARB, 2014a
EMFAC category fuel combustion	2002	7,187,427,814 gal	ARB, 2014a
EMFAC category fuel combustion	2003	7,576,825,600 gal	ARB, 2014a
EMFAC category fuel combustion	2004	7,891,292,395 gal	ARB, 2014a
EMFAC category fuel combustion	2005	8,074,048,462 gal	ARB, 2014a
EMFAC category fuel combustion	2006	8,090,670,184 gal	ARB, 2014a
EMFAC category fuel combustion	2007	8,037,569,914 gal	ARB, 2014a
EMFAC category fuel combustion	2008	7,730,298,250 gal	ARB, 2014a
EMFAC category fuel combustion	2009	7,629,233,595 gal	ARB, 2014a
EMFAC category fuel combustion	2010	7,627,085,162 gal	ARB, 2014a
EMFAC category fuel combustion	2011	7,492,647,623 gal	ARB, 2014a
EMFAC category fuel combustion	2012	7,296,993,290 gal	ARB, 2014a
EMFAC category fuel combustion	2013	7,136,511,441 gal	ARB, 2014a
EMFAC category fuel combustion	2014	7,115,426,405 gal	ARB, 2014a
EMFAC CH4 emission	2000	8.62 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	7.76 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	7.03 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	6.59 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	8.36 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	7.35 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	6.61 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	5.9 Gg (thousand tonnes)	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC CH4 emission	2008	5.25 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2009	4.9 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2010	4.64 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2011	4.26 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2012	3.88 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2013	3.53 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2014	3.25 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2000	166.11 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2001	150.44 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2002	138.64 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2003	131.32 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2004	116.6 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2005	103.8 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2006	93.4 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2007	83.78 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2008	74.91 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2009	70.19 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2010	66.52 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2011	61.04 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2012	55.61 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2013	50.41 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2014	46.08 Gg (thousand tonnes)	ARB, 2014a
EMFAC total fuel combustion	2000	14,854,521,063 gal	ARB, 2014a
EMFAC total fuel combustion	2001	14,974,619,512 gal	ARB, 2014a
EMFAC total fuel combustion	2002	15,623,665,999 gal	ARB, 2014a
EMFAC total fuel combustion	2003	15,849,299,959 gal	ARB, 2014a
EMFAC total fuel combustion	2004	16,172,230,459 gal	ARB, 2014a
EMFAC total fuel combustion	2005	16,189,185,002 gal	ARB, 2014a
EMFAC total fuel combustion	2006	16,143,192,555 gal	ARB, 2014a
EMFAC total fuel combustion	2007	15,977,349,137 gal	ARB, 2014a
EMFAC total fuel combustion	2008	15,311,004,402 gal	ARB, 2014a
EMFAC total fuel combustion	2009	15,189,522,999 gal	ARB, 2014a
EMFAC total fuel combustion	2010	15,184,580,322 gal	ARB, 2014a
EMFAC total fuel combustion	2011	14,885,198,863 gal	ARB, 2014a
EMFAC total fuel combustion	2012	14,593,712,753 gal	ARB, 2014a
EMFAC total fuel combustion	2013	14,374,193,920 gal	ARB, 2014a
EMFAC total fuel combustion	2014	14,440,544,810 gal	ARB, 2014a
Fraction of fuel mix	2000	0.996	TSD On-road
Fraction of fuel mix	2001	0.995	TSD On-road
Fraction of fuel mix	2002	0.994	TSD On-road
Fraction of fuel mix	2003	0.965	TSD On-road
Fraction of fuel mix	2004	0.948	TSD On-road
Fraction of fuel mix	2005	0.945	TSD On-road
Fraction of fuel mix	2006	0.945	TSD On-road
Fraction of fuel mix	2007	0.945	TSD On-road
Fraction of fuel mix	2008	0.939	TSD On-road
Fraction of fuel mix	2009	0.938	TSD On-road
Fraction of fuel mix	2010	0.905	TSD On-road
Fraction of fuel mix	2011	0.897	TSD On-road
Fraction of fuel mix	2012	0.904	TSD On-road
Fraction of fuel mix	2013	0.892	TSD On-road
Fraction of fuel mix	2014	0.884	TSD On-road
Fuel CO2 emission	2000	0.0709 g / btu	TSD On-road
Fuel CO2 emission	2001	0.0709 g / btu	TSD On-road
Fuel CO2 emission	2002	0.0711 g / btu	TSD On-road

Variables Used in the Emissions Estimation Equations

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Fuel CO2 emission	2003	0.071 g / btu	TSD On-road
Fuel CO2 emission	2004	0.0711 g / btu	TSD On-road
Fuel CO2 emission	2005	0.071 g / btu	TSD On-road
Fuel CO2 emission	2006	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2007	0.0717 g / btu	TSD On-road
Fuel CO2 emission	2008	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2009	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2010	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2011	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2012	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2013	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2014	0.0713 g / btu	TSD On-road
Fuel sales	2000	14,760,642,277 gal	Covert, 2013
Fuel sales	2001	14,873,287,328 gal	Covert, 2013
Fuel sales	2002	15,497,850,137 gal	Covert, 2013
Fuel sales	2003	15,660,106,873 gal	BOE, 2015
Fuel sales	2004	15,882,228,670 gal	BOE, 2015
Fuel sales	2005	15,912,767,049 gal	BOE, 2015
Fuel sales	2006	15,802,491,301 gal	BOE, 2015
Fuel sales	2007	15,644,532,462 gal	BOE, 2015
Fuel sales	2008	15,007,122,838 gal	BOE, 2015
Fuel sales	2009	14,791,632,891 gal	BOE, 2015
Fuel sales	2010	14,851,505,738 gal	BOE, 2015
Fuel sales	2011	14,583,411,578 gal	BOE, 2015
Fuel sales	2012	14,487,897,816 gal	BOE, 2015
Fuel sales	2013	14,516,519,877 gal	BOE, 2015
Fuel sales	2014	14,686,723,856 gal	BOE, 2015
Heat content	2000	125,000 btu / gal	USEPA, 2012b
Heat content	2001	125,000 btu / gal	USEPA, 2012b
Heat content	2002	125,000 btu / gal	USEPA, 2012b
Heat content	2003	125,000 btu / gal	USEPA, 2012b
Heat content	2004	125,000 btu / gal	USEPA, 2012b
Heat content	2005	125,000 btu / gal	USEPA, 2012b
Heat content	2006	125,000 btu / gal	USEPA, 2012b
Heat content	2007	125,000 btu / gal	USEPA, 2012b
Heat content	2008	125,000 btu / gal	USEPA, 2012b
Heat content	2009	125,000 btu / gal	USEPA, 2012b
Heat content	2010	125,000 btu / gal	USEPA, 2012b
Heat content	2011	125,000 btu / gal	USEPA, 2012b
Heat content	2012	125,000 btu / gal	USEPA, 2012b
Heat content	2013	125,000 btu / gal	USEPA, 2012b
Heat content	2014	125,000 btu / gal	USEPA, 2012b
N2O to NOx ratio	2000	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2001	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2002	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2003	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2004	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2005	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2006	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2007	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2008	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2009	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2010	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2011	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2012	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2013	0.0416 g / g	ARB, 2014b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

N2O to NOx ratio	2014	0.0416 g / g	ARB, 2014b
Activity = Fuel combustion - Renewable Diesel			
- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Renewable Diesel	2000	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2001	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2002	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2003	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2004	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2005	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2006	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2007	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2008	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2009	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2010	5,238 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2011	7,035 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2012	55,617 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2013	967,097 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2014	847,078 gal	Calculation, see text
EMFAC category fuel combustion	2000	9,012,624 gal	ARB, 2014a
EMFAC category fuel combustion	2001	7,736,804 gal	ARB, 2014a
EMFAC category fuel combustion	2002	7,729,605 gal	ARB, 2014a
EMFAC category fuel combustion	2003	6,882,961 gal	ARB, 2014a
EMFAC category fuel combustion	2004	6,935,228 gal	ARB, 2014a
EMFAC category fuel combustion	2005	5,329,098 gal	ARB, 2014a
EMFAC category fuel combustion	2006	4,705,573 gal	ARB, 2014a
EMFAC category fuel combustion	2007	4,279,066 gal	ARB, 2014a
EMFAC category fuel combustion	2008	3,906,687 gal	ARB, 2014a
EMFAC category fuel combustion	2009	5,328,984 gal	ARB, 2014a
EMFAC category fuel combustion	2010	7,187,644 gal	ARB, 2014a
EMFAC category fuel combustion	2011	10,625,927 gal	ARB, 2014a
EMFAC category fuel combustion	2012	16,649,126 gal	ARB, 2014a
EMFAC category fuel combustion	2013	19,740,850 gal	ARB, 2014a
EMFAC category fuel combustion	2014	22,893,458 gal	ARB, 2014a
EMFAC CH4 emission	2000	2.58 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	2.19 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	2.03 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	1.81 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	1.68 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	1.38 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	1.22 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	1.07 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	932.93 kg	ARB, 2014a
EMFAC CH4 emission	2009	869.56 kg	ARB, 2014a
EMFAC CH4 emission	2010	831.06 kg	ARB, 2014a
EMFAC CH4 emission	2011	783.65 kg	ARB, 2014a
EMFAC CH4 emission	2012	825.8 kg	ARB, 2014a
EMFAC CH4 emission	2013	782.26 kg	ARB, 2014a
EMFAC CH4 emission	2014	766.06 kg	ARB, 2014a
EMFAC total fuel combustion	2000	2,660,379,546 gal	ARB, 2014a
EMFAC total fuel combustion	2001	2,666,890,335 gal	ARB, 2014a
EMFAC total fuel combustion	2002	2,757,421,172 gal	ARB, 2014a
EMFAC total fuel combustion	2003	2,781,714,949 gal	ARB, 2014a
EMFAC total fuel combustion	2004	2,952,751,396 gal	ARB, 2014a
EMFAC total fuel combustion	2005	3,071,891,727 gal	ARB, 2014a
EMFAC total fuel combustion	2006	3,141,453,525 gal	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC total fuel combustion	2007	3,191,774,423 gal	ARB, 2014a
EMFAC total fuel combustion	2008	2,922,281,862 gal	ARB, 2014a
EMFAC total fuel combustion	2009	2,682,967,285 gal	ARB, 2014a
EMFAC total fuel combustion	2010	2,703,263,445 gal	ARB, 2014a
EMFAC total fuel combustion	2011	2,724,183,652 gal	ARB, 2014a
EMFAC total fuel combustion	2012	2,725,962,176 gal	ARB, 2014a
EMFAC total fuel combustion	2013	2,771,644,965 gal	ARB, 2014a
EMFAC total fuel combustion	2014	2,825,543,622 gal	ARB, 2014a
Fraction of fuel mix	2000	0	TSD On-road
Fraction of fuel mix	2001	0	TSD On-road
Fraction of fuel mix	2002	0	TSD On-road
Fraction of fuel mix	2003	0	TSD On-road
Fraction of fuel mix	2004	0	TSD On-road
Fraction of fuel mix	2005	0	TSD On-road
Fraction of fuel mix	2006	0	TSD On-road
Fraction of fuel mix	2007	0	TSD On-road
Fraction of fuel mix	2008	0	TSD On-road
Fraction of fuel mix	2009	0	TSD On-road
Fraction of fuel mix	2010	7.605E-04	TSD On-road
Fraction of fuel mix	2011	6.877E-04	TSD On-road
Fraction of fuel mix	2012	3.498E-03	TSD On-road
Fraction of fuel mix	2013	0.0495	TSD On-road
Fraction of fuel mix	2014	0.0377	TSD On-road
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2001	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2002	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2003	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2004	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2005	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2006	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2007	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2008	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2009	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2010	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2011	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2012	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2013	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2014	0.332 g / gal	ARB, 2014b
Fuel sales	2000	2,632,760,095 gal	Covert, 2013
Fuel sales	2001	2,627,365,783 gal	Covert, 2013

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel sales	2002	2,700,122,539 gal	Covert, 2013
Fuel sales	2003	2,667,933,637 gal	BOE, 2015
Fuel sales	2004	2,842,332,046 gal	BOE, 2015
Fuel sales	2005	2,963,733,672 gal	BOE, 2015
Fuel sales	2006	2,994,049,134 gal	BOE, 2015
Fuel sales	2007	3,082,740,281 gal	BOE, 2015
Fuel sales	2008	2,827,526,205 gal	BOE, 2015
Fuel sales	2009	2,580,139,949 gal	BOE, 2015
Fuel sales	2010	2,590,655,088 gal	BOE, 2015
Fuel sales	2011	2,622,534,125 gal	BOE, 2015
Fuel sales	2012	2,603,545,631 gal	BOE, 2015
Fuel sales	2013	2,740,305,658 gal	BOE, 2015
Fuel sales	2014	2,776,180,358 gal	BOE, 2015
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b
Heat content	2014	138,000 btu / gal	USEPA, 2012b

IPCC category = 1A3biii — Fuel Combustion Activities - Transport - Road Transportation - Heavy-duty Trucks and Buses

► Sector = On Road

Activity = Fuel combustion - Biomethane

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Biomethane	2000	0 scf	Not applicable
Fuel combustion - Biomethane	2001	0 scf	Not applicable
Fuel combustion - Biomethane	2002	0 scf	Not applicable
Fuel combustion - Biomethane	2003	0 scf	Not applicable
Fuel combustion - Biomethane	2004	0 scf	Not applicable
Fuel combustion - Biomethane	2005	0 scf	Not applicable
Fuel combustion - Biomethane	2006	0 scf	Not applicable
Fuel combustion - Biomethane	2007	0 scf	Not applicable
Fuel combustion - Biomethane	2008	0 scf	Not applicable
Fuel combustion - Biomethane	2009	0 scf	Not applicable
Fuel combustion - Biomethane	2010	0 scf	Not applicable
Fuel combustion - Biomethane	2011	258,484,502 scf	ARB, 2016
Fuel combustion - Biomethane	2012	261,554,304 scf	ARB, 2016
Fuel combustion - Biomethane	2013	1,678,599,838 scf	ARB, 2016
Fuel combustion - Biomethane	2014	4,436,828,483 scf	ARB, 2016
Fuel CH4 emission	2000	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	1.000E-06 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CH4 emission	2006	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	1.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	1.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.0521 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0521 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0521 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.0521 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0521 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.0521 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.0521 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0521 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0521 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0521 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0521 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0521 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0521 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.0521 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.0521 g / btu	USEPA, 2012b
Fuel N2O emission	2000	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	1.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	1.000E-07 g / btu	USEPA, 2012b
Heat content	2000	841 btu / scf	EIA, 2013c
Heat content	2001	841 btu / scf	EIA, 2013c
Heat content	2002	841 btu / scf	EIA, 2013c
Heat content	2003	841 btu / scf	EIA, 2013c
Heat content	2004	841 btu / scf	EIA, 2013c
Heat content	2005	841 btu / scf	USEPA, 2012b
Heat content	2006	841 btu / scf	EIA, 2013c
Heat content	2007	841 btu / scf	USEPA, 2012b
Heat content	2008	841 btu / scf	EIA, 2013c
Heat content	2009	841 btu / scf	EIA, 2013c
Heat content	2010	841 btu / scf	EIA, 2013c
Heat content	2011	841 btu / scf	EIA, 2013c
Heat content	2012	841 btu / scf	EIA, 2013c
Heat content	2013	841 btu / scf	EIA, 2013c
Heat content	2014	841 btu / scf	EIA, 2013c

► Sector = On Road : Heavy-duty Vehicles : Buses

Activity = Fuel combustion - Biodiesel

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Biodiesel	2000	129,640 gal	Calculation, see text
Fuel combustion - Biodiesel	2001	154,310 gal	Calculation, see text
Fuel combustion - Biodiesel	2002	255,143 gal	Calculation, see text
Fuel combustion - Biodiesel	2003	56,095 gal	Calculation, see text
Fuel combustion - Biodiesel	2004	83,759 gal	Calculation, see text
Fuel combustion - Biodiesel	2005	141,809 gal	Calculation, see text
Fuel combustion - Biodiesel	2006	1,088,110 gal	Calculation, see text
Fuel combustion - Biodiesel	2007	941,575 gal	Calculation, see text
Fuel combustion - Biodiesel	2008	649,669 gal	Calculation, see text
Fuel combustion - Biodiesel	2009	403,688 gal	Calculation, see text
Fuel combustion - Biodiesel	2010	320,362 gal	Calculation, see text
Fuel combustion - Biodiesel	2011	1,059,659 gal	Calculation, see text
Fuel combustion - Biodiesel	2012	1,161,136 gal	Calculation, see text
Fuel combustion - Biodiesel	2013	2,628,260 gal	Calculation, see text
Fuel combustion - Biodiesel	2014	2,862,612 gal	Calculation, see text
EMFAC category fuel combustion	2000	172,445,630 gal	ARB, 2014a
EMFAC category fuel combustion	2001	164,611,324 gal	ARB, 2014a
EMFAC category fuel combustion	2002	175,884,492 gal	ARB, 2014a
EMFAC category fuel combustion	2003	173,376,615 gal	ARB, 2014a
EMFAC category fuel combustion	2004	176,657,793 gal	ARB, 2014a
EMFAC category fuel combustion	2005	169,474,078 gal	ARB, 2014a
EMFAC category fuel combustion	2006	174,308,337 gal	ARB, 2014a
EMFAC category fuel combustion	2007	172,133,826 gal	ARB, 2014a
EMFAC category fuel combustion	2008	162,236,984 gal	ARB, 2014a
EMFAC category fuel combustion	2009	156,489,229 gal	ARB, 2014a
EMFAC category fuel combustion	2010	160,431,746 gal	ARB, 2014a
EMFAC category fuel combustion	2011	158,514,123 gal	ARB, 2014a
EMFAC category fuel combustion	2012	154,568,152 gal	ARB, 2014a
EMFAC category fuel combustion	2013	148,759,505 gal	ARB, 2014a
EMFAC category fuel combustion	2014	142,130,137 gal	ARB, 2014a
EMFAC CH4 emission	2000	57.91 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	54.98 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	56.96 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	56.42 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	56.48 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	53.84 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	54.82 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	54.22 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	50.02 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2009	46.99 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2010	45.66 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2011	43.33 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2012	38.16 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2013	31.67 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2014	25.43 Mg (tonnes)	ARB, 2014a
EMFAC total fuel combustion	2000	2,660,379,546 gal	ARB, 2014a
EMFAC total fuel combustion	2001	2,666,890,335 gal	ARB, 2014a
EMFAC total fuel combustion	2002	2,757,421,172 gal	ARB, 2014a
EMFAC total fuel combustion	2003	2,781,714,949 gal	ARB, 2014a
EMFAC total fuel combustion	2004	2,952,751,396 gal	ARB, 2014a
EMFAC total fuel combustion	2005	3,071,891,727 gal	ARB, 2014a
EMFAC total fuel combustion	2006	3,141,453,525 gal	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC total fuel combustion	2007	3,191,774,423 gal	ARB, 2014a
EMFAC total fuel combustion	2008	2,922,281,862 gal	ARB, 2014a
EMFAC total fuel combustion	2009	2,682,967,285 gal	ARB, 2014a
EMFAC total fuel combustion	2010	2,703,263,445 gal	ARB, 2014a
EMFAC total fuel combustion	2011	2,724,183,652 gal	ARB, 2014a
EMFAC total fuel combustion	2012	2,725,962,176 gal	ARB, 2014a
EMFAC total fuel combustion	2013	2,771,644,965 gal	ARB, 2014a
EMFAC total fuel combustion	2014	2,825,543,622 gal	ARB, 2014a
Fraction of fuel mix	2000	7.597E-04	TSD On-road
Fraction of fuel mix	2001	9.515E-04	TSD On-road
Fraction of fuel mix	2002	1.481E-03	TSD On-road
Fraction of fuel mix	2003	3.373E-04	TSD On-road
Fraction of fuel mix	2004	4.926E-04	TSD On-road
Fraction of fuel mix	2005	8.673E-04	TSD On-road
Fraction of fuel mix	2006	6.550E-03	TSD On-road
Fraction of fuel mix	2007	5.663E-03	TSD On-road
Fraction of fuel mix	2008	4.139E-03	TSD On-road
Fraction of fuel mix	2009	2.682E-03	TSD On-road
Fraction of fuel mix	2010	2.084E-03	TSD On-road
Fraction of fuel mix	2011	6.944E-03	TSD On-road
Fraction of fuel mix	2012	7.865E-03	TSD On-road
Fraction of fuel mix	2013	0.0179	TSD On-road
Fraction of fuel mix	2014	0.0205	TSD On-road
Fuel CO2 emission	2000	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.0738 g / btu	USEPA, 2012b
Fuel N2O emission	2000	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2001	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2002	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2003	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2004	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2005	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2006	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2007	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2008	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2009	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2010	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2011	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2012	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2013	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2014	0.332 g / gal	ARB, 2014b
Fuel sales	2000	2,632,760,095 gal	Covert, 2013
Fuel sales	2001	2,627,365,783 gal	Covert, 2013

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel sales	2002	2,700,122,539 gal	Covert, 2013
Fuel sales	2003	2,667,933,637 gal	BOE, 2015
Fuel sales	2004	2,842,332,046 gal	BOE, 2015
Fuel sales	2005	2,963,733,672 gal	BOE, 2015
Fuel sales	2006	2,994,049,134 gal	BOE, 2015
Fuel sales	2007	3,082,740,281 gal	BOE, 2015
Fuel sales	2008	2,827,526,205 gal	BOE, 2015
Fuel sales	2009	2,580,139,949 gal	BOE, 2015
Fuel sales	2010	2,590,655,088 gal	BOE, 2015
Fuel sales	2011	2,622,534,125 gal	BOE, 2015
Fuel sales	2012	2,603,545,631 gal	BOE, 2015
Fuel sales	2013	2,740,305,658 gal	BOE, 2015
Fuel sales	2014	2,776,180,358 gal	BOE, 2015
Heat content	2000	128,000 btu / gal	USEPA, 2012b
Heat content	2001	128,000 btu / gal	USEPA, 2012b
Heat content	2002	128,000 btu / gal	USEPA, 2012b
Heat content	2003	128,000 btu / gal	USEPA, 2012b
Heat content	2004	128,000 btu / gal	USEPA, 2012b
Heat content	2005	128,000 btu / gal	USEPA, 2012b
Heat content	2006	128,000 btu / gal	USEPA, 2012b
Heat content	2007	128,000 btu / gal	USEPA, 2012b
Heat content	2008	128,000 btu / gal	USEPA, 2012b
Heat content	2009	128,000 btu / gal	USEPA, 2012b
Heat content	2010	128,000 btu / gal	USEPA, 2012b
Heat content	2011	128,000 btu / gal	USEPA, 2012b
Heat content	2012	128,000 btu / gal	USEPA, 2012b
Heat content	2013	128,000 btu / gal	USEPA, 2012b
Heat content	2014	128,000 btu / gal	USEPA, 2012b

Activity = Fuel combustion - Distillate

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Distillate	2000	170,525,699 gal	Calculation, see text
Fuel combustion - Distillate	2001	162,017,398 gal	Calculation, see text
Fuel combustion - Distillate	2002	171,974,506 gal	Calculation, see text
Fuel combustion - Distillate	2003	166,228,845 gal	Calculation, see text
Fuel combustion - Distillate	2004	169,967,843 gal	Calculation, see text
Fuel combustion - Distillate	2005	163,365,266 gal	Calculation, see text
Fuel combustion - Distillate	2006	165,041,270 gal	Calculation, see text
Fuel combustion - Distillate	2007	165,311,991 gal	Calculation, see text
Fuel combustion - Distillate	2008	156,326,744 gal	Calculation, see text
Fuel combustion - Distillate	2009	150,087,939 gal	Calculation, see text
Fuel combustion - Distillate	2010	153,311,442 gal	Calculation, see text
Fuel combustion - Distillate	2011	151,434,765 gal	Calculation, see text
Fuel combustion - Distillate	2012	145,949,387 gal	Calculation, see text
Fuel combustion - Distillate	2013	137,161,531 gal	Calculation, see text
Fuel combustion - Distillate	2014	131,525,521 gal	Calculation, see text
EMFAC category fuel combustion	2000	172,445,630 gal	ARB, 2014a
EMFAC category fuel combustion	2001	164,611,324 gal	ARB, 2014a
EMFAC category fuel combustion	2002	175,884,492 gal	ARB, 2014a
EMFAC category fuel combustion	2003	173,376,615 gal	ARB, 2014a
EMFAC category fuel combustion	2004	176,657,793 gal	ARB, 2014a
EMFAC category fuel combustion	2005	169,474,078 gal	ARB, 2014a
EMFAC category fuel combustion	2006	174,308,337 gal	ARB, 2014a
EMFAC category fuel combustion	2007	172,133,826 gal	ARB, 2014a
EMFAC category fuel combustion	2008	162,236,984 gal	ARB, 2014a
EMFAC category fuel combustion	2009	156,489,229 gal	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC category fuel combustion	2010	160,431,746 gal	ARB, 2014a
EMFAC category fuel combustion	2011	158,514,123 gal	ARB, 2014a
EMFAC category fuel combustion	2012	154,568,152 gal	ARB, 2014a
EMFAC category fuel combustion	2013	148,759,505 gal	ARB, 2014a
EMFAC category fuel combustion	2014	142,130,137 gal	ARB, 2014a
EMFAC CH4 emission	2000	57.91 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	54.98 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	56.96 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	56.42 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	56.48 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	53.84 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	54.82 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	54.22 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	50.02 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2009	46.99 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2010	45.66 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2011	43.33 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2012	38.16 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2013	31.67 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2014	25.43 Mg (tonnes)	ARB, 2014a
EMFAC total fuel combustion	2000	2,660,379,546 gal	ARB, 2014a
EMFAC total fuel combustion	2001	2,666,890,335 gal	ARB, 2014a
EMFAC total fuel combustion	2002	2,757,421,172 gal	ARB, 2014a
EMFAC total fuel combustion	2003	2,781,714,949 gal	ARB, 2014a
EMFAC total fuel combustion	2004	2,952,751,396 gal	ARB, 2014a
EMFAC total fuel combustion	2005	3,071,891,727 gal	ARB, 2014a
EMFAC total fuel combustion	2006	3,141,453,525 gal	ARB, 2014a
EMFAC total fuel combustion	2007	3,191,774,423 gal	ARB, 2014a
EMFAC total fuel combustion	2008	2,922,281,862 gal	ARB, 2014a
EMFAC total fuel combustion	2009	2,682,967,285 gal	ARB, 2014a
EMFAC total fuel combustion	2010	2,703,263,445 gal	ARB, 2014a
EMFAC total fuel combustion	2011	2,724,183,652 gal	ARB, 2014a
EMFAC total fuel combustion	2012	2,725,962,176 gal	ARB, 2014a
EMFAC total fuel combustion	2013	2,771,644,965 gal	ARB, 2014a
EMFAC total fuel combustion	2014	2,825,543,622 gal	ARB, 2014a
Fraction of fuel mix	2000	0.999	TSD On-road
Fraction of fuel mix	2001	0.999	TSD On-road
Fraction of fuel mix	2002	0.999	TSD On-road
Fraction of fuel mix	2003	1	TSD On-road
Fraction of fuel mix	2004	1	TSD On-road
Fraction of fuel mix	2005	0.999	TSD On-road
Fraction of fuel mix	2006	0.993	TSD On-road
Fraction of fuel mix	2007	0.994	TSD On-road
Fraction of fuel mix	2008	0.996	TSD On-road
Fraction of fuel mix	2009	0.997	TSD On-road
Fraction of fuel mix	2010	0.997	TSD On-road
Fraction of fuel mix	2011	0.992	TSD On-road
Fraction of fuel mix	2012	0.989	TSD On-road
Fraction of fuel mix	2013	0.933	TSD On-road
Fraction of fuel mix	2014	0.942	TSD On-road
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2001	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2002	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2003	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2004	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2005	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2006	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2007	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2008	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2009	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2010	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2011	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2012	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2013	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2014	0.332 g / gal	ARB, 2014b
Fuel sales	2000	2,632,760,095 gal	Covert, 2013
Fuel sales	2001	2,627,365,783 gal	Covert, 2013
Fuel sales	2002	2,700,122,539 gal	Covert, 2013
Fuel sales	2003	2,667,933,637 gal	BOE, 2015
Fuel sales	2004	2,842,332,046 gal	BOE, 2015
Fuel sales	2005	2,963,733,672 gal	BOE, 2015
Fuel sales	2006	2,994,049,134 gal	BOE, 2015
Fuel sales	2007	3,082,740,281 gal	BOE, 2015
Fuel sales	2008	2,827,526,205 gal	BOE, 2015
Fuel sales	2009	2,580,139,949 gal	BOE, 2015
Fuel sales	2010	2,590,655,088 gal	BOE, 2015
Fuel sales	2011	2,622,534,125 gal	BOE, 2015
Fuel sales	2012	2,603,545,631 gal	BOE, 2015
Fuel sales	2013	2,740,305,658 gal	BOE, 2015
Fuel sales	2014	2,776,180,358 gal	BOE, 2015
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b
Heat content	2014	138,000 btu / gal	USEPA, 2012b

Activity = Fuel combustion - Ethanol

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Ethanol	2000	195,109 gal	Calculation, see text
Fuel combustion - Ethanol	2001	258,342 gal	Calculation, see text
Fuel combustion - Ethanol	2002	361,844 gal	Calculation, see text
Fuel combustion - Ethanol	2003	2,235,467 gal	Calculation, see text
Fuel combustion - Ethanol	2004	3,447,977 gal	Calculation, see text
Fuel combustion - Ethanol	2005	3,730,347 gal	Calculation, see text
Fuel combustion - Ethanol	2006	4,158,225 gal	Calculation, see text
Fuel combustion - Ethanol	2007	4,287,763 gal	Calculation, see text
Fuel combustion - Ethanol	2008	4,978,907 gal	Calculation, see text
Fuel combustion - Ethanol	2009	5,282,708 gal	Calculation, see text
Fuel combustion - Ethanol	2010	8,466,681 gal	Calculation, see text
Fuel combustion - Ethanol	2011	8,983,315 gal	Calculation, see text
Fuel combustion - Ethanol	2012	8,411,221 gal	Calculation, see text
Fuel combustion - Ethanol	2013	9,585,617 gal	Calculation, see text
Fuel combustion - Ethanol	2014	10,547,940 gal	Calculation, see text
EMFAC category fuel combustion	2000	52,172,938 gal	ARB, 2014a
EMFAC category fuel combustion	2001	51,369,580 gal	ARB, 2014a
EMFAC category fuel combustion	2002	61,504,911 gal	ARB, 2014a
EMFAC category fuel combustion	2003	65,459,570 gal	ARB, 2014a
EMFAC category fuel combustion	2004	67,428,919 gal	ARB, 2014a
EMFAC category fuel combustion	2005	68,678,006 gal	ARB, 2014a
EMFAC category fuel combustion	2006	76,737,478 gal	ARB, 2014a
EMFAC category fuel combustion	2007	78,971,580 gal	ARB, 2014a
EMFAC category fuel combustion	2008	83,172,941 gal	ARB, 2014a
EMFAC category fuel combustion	2009	87,341,763 gal	ARB, 2014a
EMFAC category fuel combustion	2010	91,078,877 gal	ARB, 2014a
EMFAC category fuel combustion	2011	88,927,437 gal	ARB, 2014a
EMFAC category fuel combustion	2012	88,424,968 gal	ARB, 2014a
EMFAC category fuel combustion	2013	87,521,955 gal	ARB, 2014a
EMFAC category fuel combustion	2014	89,619,639 gal	ARB, 2014a
EMFAC CH4 emission	2000	133.67 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	128.01 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	131.33 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	132.37 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	183.61 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	162.18 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	163.95 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	159.24 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	152.93 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2009	153.24 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2010	154.59 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2011	146.73 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2012	140.13 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2013	123.55 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2014	115.33 Mg (tonnes)	ARB, 2014a
EMFAC NOx emission	2000	1.55 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2001	1.51 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2002	1.61 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2003	1.66 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2004	1.6 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2005	1.45 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2006	1.5 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2007	1.45 Gg (thousand tonnes)	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC NOx emission	2008	1.39 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2009	1.37 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2010	1.37 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2011	1.29 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2012	1.21 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2013	1.1 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2014	1.04 Gg (thousand tonnes)	ARB, 2014a
EMFAC total fuel combustion	2000	14,854,521,063 gal	ARB, 2014a
EMFAC total fuel combustion	2001	14,974,619,512 gal	ARB, 2014a
EMFAC total fuel combustion	2002	15,623,665,999 gal	ARB, 2014a
EMFAC total fuel combustion	2003	15,849,299,959 gal	ARB, 2014a
EMFAC total fuel combustion	2004	16,172,230,459 gal	ARB, 2014a
EMFAC total fuel combustion	2005	16,189,185,002 gal	ARB, 2014a
EMFAC total fuel combustion	2006	16,143,192,555 gal	ARB, 2014a
EMFAC total fuel combustion	2007	15,977,349,137 gal	ARB, 2014a
EMFAC total fuel combustion	2008	15,311,004,402 gal	ARB, 2014a
EMFAC total fuel combustion	2009	15,189,522,999 gal	ARB, 2014a
EMFAC total fuel combustion	2010	15,184,580,322 gal	ARB, 2014a
EMFAC total fuel combustion	2011	14,885,198,863 gal	ARB, 2014a
EMFAC total fuel combustion	2012	14,593,712,753 gal	ARB, 2014a
EMFAC total fuel combustion	2013	14,374,193,920 gal	ARB, 2014a
EMFAC total fuel combustion	2014	14,440,544,810 gal	ARB, 2014a
Fraction of fuel mix	2000	3.763E-03	TSD On-road
Fraction of fuel mix	2001	5.063E-03	TSD On-road
Fraction of fuel mix	2002	5.931E-03	TSD On-road
Fraction of fuel mix	2003	0.0346	TSD On-road
Fraction of fuel mix	2004	0.0521	TSD On-road
Fraction of fuel mix	2005	0.0553	TSD On-road
Fraction of fuel mix	2006	0.0554	TSD On-road
Fraction of fuel mix	2007	0.0555	TSD On-road
Fraction of fuel mix	2008	0.0611	TSD On-road
Fraction of fuel mix	2009	0.0621	TSD On-road
Fraction of fuel mix	2010	0.095	TSD On-road
Fraction of fuel mix	2011	0.103	TSD On-road
Fraction of fuel mix	2012	0.0958	TSD On-road
Fraction of fuel mix	2013	0.108	TSD On-road
Fraction of fuel mix	2014	0.116	TSD On-road
Fuel CO2 emission	2000	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2001	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2002	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2003	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2004	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2005	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2006	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2007	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2008	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2009	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2010	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2011	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2012	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2013	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2014	0.0684 g / btu	TSD On-road
Fuel sales	2000	14,760,642,277 gal	Covert, 2013
Fuel sales	2001	14,873,287,328 gal	Covert, 2013
Fuel sales	2002	15,497,850,137 gal	Covert, 2013

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel sales	2003	15,660,106,873 gal	BOE, 2015
Fuel sales	2004	15,882,228,670 gal	BOE, 2015
Fuel sales	2005	15,912,767,049 gal	BOE, 2015
Fuel sales	2006	15,802,491,301 gal	BOE, 2015
Fuel sales	2007	15,644,532,462 gal	BOE, 2015
Fuel sales	2008	15,007,122,838 gal	BOE, 2015
Fuel sales	2009	14,791,632,891 gal	BOE, 2015
Fuel sales	2010	14,851,505,738 gal	BOE, 2015
Fuel sales	2011	14,583,411,578 gal	BOE, 2015
Fuel sales	2012	14,487,897,816 gal	BOE, 2015
Fuel sales	2013	14,516,519,877 gal	BOE, 2015
Fuel sales	2014	14,686,723,856 gal	BOE, 2015
Heat content	2000	84,000 btu / gal	USEPA, 2012b
Heat content	2001	84,000 btu / gal	USEPA, 2012b
Heat content	2002	84,000 btu / gal	USEPA, 2012b
Heat content	2003	84,000 btu / gal	USEPA, 2012b
Heat content	2004	84,000 btu / gal	USEPA, 2012b
Heat content	2005	84,000 btu / gal	USEPA, 2012b
Heat content	2006	84,000 btu / gal	USEPA, 2012b
Heat content	2007	84,000 btu / gal	USEPA, 2012b
Heat content	2008	84,000 btu / gal	USEPA, 2012b
Heat content	2009	84,000 btu / gal	USEPA, 2012b
Heat content	2010	84,000 btu / gal	USEPA, 2012b
Heat content	2011	84,000 btu / gal	USEPA, 2012b
Heat content	2012	84,000 btu / gal	USEPA, 2012b
Heat content	2013	84,000 btu / gal	USEPA, 2012b
Heat content	2014	84,000 btu / gal	USEPA, 2012b
N2O to NOx ratio	2000	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2001	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2002	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2003	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2004	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2005	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2006	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2007	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2008	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2009	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2010	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2011	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2012	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2013	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2014	0.0416 g / g	ARB, 2014a

Activity = Fuel combustion - Gasoline

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Gasoline	2000	51,648,102 gal	Calculation, see text
Fuel combustion - Gasoline	2001	50,763,623 gal	Calculation, see text
Fuel combustion - Gasoline	2002	60,647,773 gal	Calculation, see text
Fuel combustion - Gasoline	2003	62,442,712 gal	Calculation, see text
Fuel combustion - Gasoline	2004	62,771,801 gal	Calculation, see text
Fuel combustion - Gasoline	2005	63,775,034 gal	Calculation, see text
Fuel combustion - Gasoline	2006	70,959,712 gal	Calculation, see text
Fuel combustion - Gasoline	2007	73,038,797 gal	Calculation, see text
Fuel combustion - Gasoline	2008	76,543,278 gal	Calculation, see text
Fuel combustion - Gasoline	2009	79,771,135 gal	Calculation, see text
Fuel combustion - Gasoline	2010	80,614,376 gal	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel combustion - Gasoline	2011	78,141,178 gal	Calculation, see text
Fuel combustion - Gasoline	2012	79,372,602 gal	Calculation, see text
Fuel combustion - Gasoline	2013	78,802,935 gal	Calculation, see text
Fuel combustion - Gasoline	2014	80,599,514 gal	Calculation, see text
EMFAC category fuel combustion	2000	52,172,938 gal	ARB, 2014a
EMFAC category fuel combustion	2001	51,369,580 gal	ARB, 2014a
EMFAC category fuel combustion	2002	61,504,911 gal	ARB, 2014a
EMFAC category fuel combustion	2003	65,459,570 gal	ARB, 2014a
EMFAC category fuel combustion	2004	67,428,919 gal	ARB, 2014a
EMFAC category fuel combustion	2005	68,678,006 gal	ARB, 2014a
EMFAC category fuel combustion	2006	76,737,478 gal	ARB, 2014a
EMFAC category fuel combustion	2007	78,971,580 gal	ARB, 2014a
EMFAC category fuel combustion	2008	83,172,941 gal	ARB, 2014a
EMFAC category fuel combustion	2009	87,341,763 gal	ARB, 2014a
EMFAC category fuel combustion	2010	91,078,877 gal	ARB, 2014a
EMFAC category fuel combustion	2011	88,927,437 gal	ARB, 2014a
EMFAC category fuel combustion	2012	88,424,968 gal	ARB, 2014a
EMFAC category fuel combustion	2013	87,521,955 gal	ARB, 2014a
EMFAC category fuel combustion	2014	89,619,639 gal	ARB, 2014a
EMFAC CH4 emission	2000	133.67 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	128.01 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	131.33 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	132.37 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	183.61 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	162.18 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	163.95 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	159.24 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	152.93 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2009	153.24 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2010	154.59 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2011	146.73 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2012	140.13 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2013	123.55 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2014	115.33 Mg (tonnes)	ARB, 2014a
EMFAC NOx emission	2000	1.55 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2001	1.51 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2002	1.61 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2003	1.66 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2004	1.6 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2005	1.45 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2006	1.5 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2007	1.45 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2008	1.39 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2009	1.37 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2010	1.37 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2011	1.29 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2012	1.21 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2013	1.1 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2014	1.04 Gg (thousand tonnes)	ARB, 2014a
EMFAC total fuel combustion	2000	14,854,521,063 gal	ARB, 2014a
EMFAC total fuel combustion	2001	14,974,619,512 gal	ARB, 2014a
EMFAC total fuel combustion	2002	15,623,665,999 gal	ARB, 2014a
EMFAC total fuel combustion	2003	15,849,299,959 gal	ARB, 2014a
EMFAC total fuel combustion	2004	16,172,230,459 gal	ARB, 2014a
EMFAC total fuel combustion	2005	16,189,185,002 gal	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC total fuel combustion	2006	16,143,192,555 gal	ARB, 2014a
EMFAC total fuel combustion	2007	15,977,349,137 gal	ARB, 2014a
EMFAC total fuel combustion	2008	15,311,004,402 gal	ARB, 2014a
EMFAC total fuel combustion	2009	15,189,522,999 gal	ARB, 2014a
EMFAC total fuel combustion	2010	15,184,580,322 gal	ARB, 2014a
EMFAC total fuel combustion	2011	14,885,198,863 gal	ARB, 2014a
EMFAC total fuel combustion	2012	14,593,712,753 gal	ARB, 2014a
EMFAC total fuel combustion	2013	14,374,193,920 gal	ARB, 2014a
EMFAC total fuel combustion	2014	14,440,544,810 gal	ARB, 2014a
Fraction of fuel mix	2000	0.996	TSD On-road
Fraction of fuel mix	2001	0.995	TSD On-road
Fraction of fuel mix	2002	0.994	TSD On-road
Fraction of fuel mix	2003	0.965	TSD On-road
Fraction of fuel mix	2004	0.948	TSD On-road
Fraction of fuel mix	2005	0.945	TSD On-road
Fraction of fuel mix	2006	0.945	TSD On-road
Fraction of fuel mix	2007	0.945	TSD On-road
Fraction of fuel mix	2008	0.939	TSD On-road
Fraction of fuel mix	2009	0.938	TSD On-road
Fraction of fuel mix	2010	0.905	TSD On-road
Fraction of fuel mix	2011	0.897	TSD On-road
Fraction of fuel mix	2012	0.904	TSD On-road
Fraction of fuel mix	2013	0.892	TSD On-road
Fraction of fuel mix	2014	0.884	TSD On-road
Fuel CO2 emission	2000	0.0709 g / btu	TSD On-road
Fuel CO2 emission	2001	0.0709 g / btu	TSD On-road
Fuel CO2 emission	2002	0.0711 g / btu	TSD On-road
Fuel CO2 emission	2003	0.071 g / btu	TSD On-road
Fuel CO2 emission	2004	0.0711 g / btu	TSD On-road
Fuel CO2 emission	2005	0.071 g / btu	TSD On-road
Fuel CO2 emission	2006	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2007	0.0717 g / btu	TSD On-road
Fuel CO2 emission	2008	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2009	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2010	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2011	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2012	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2013	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2014	0.0713 g / btu	TSD On-road
Fuel sales	2000	14,760,642,277 gal	Covert, 2013
Fuel sales	2001	14,873,287,328 gal	Covert, 2013
Fuel sales	2002	15,497,850,137 gal	Covert, 2013
Fuel sales	2003	15,660,106,873 gal	BOE, 2015
Fuel sales	2004	15,882,228,670 gal	BOE, 2015
Fuel sales	2005	15,912,767,049 gal	BOE, 2015
Fuel sales	2006	15,802,491,301 gal	BOE, 2015
Fuel sales	2007	15,644,532,462 gal	BOE, 2015
Fuel sales	2008	15,007,122,838 gal	BOE, 2015
Fuel sales	2009	14,791,632,891 gal	BOE, 2015
Fuel sales	2010	14,851,505,738 gal	BOE, 2015
Fuel sales	2011	14,583,411,578 gal	BOE, 2015
Fuel sales	2012	14,487,897,816 gal	BOE, 2015
Fuel sales	2013	14,516,519,877 gal	BOE, 2015
Fuel sales	2014	14,686,723,856 gal	BOE, 2015
Heat content	2000	125,000 btu / gal	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Heat content	2001	125,000 btu / gal	USEPA, 2012b
Heat content	2002	125,000 btu / gal	USEPA, 2012b
Heat content	2003	125,000 btu / gal	USEPA, 2012b
Heat content	2004	125,000 btu / gal	USEPA, 2012b
Heat content	2005	125,000 btu / gal	USEPA, 2012b
Heat content	2006	125,000 btu / gal	USEPA, 2012b
Heat content	2007	125,000 btu / gal	USEPA, 2012b
Heat content	2008	125,000 btu / gal	USEPA, 2012b
Heat content	2009	125,000 btu / gal	USEPA, 2012b
Heat content	2010	125,000 btu / gal	USEPA, 2012b
Heat content	2011	125,000 btu / gal	USEPA, 2012b
Heat content	2012	125,000 btu / gal	USEPA, 2012b
Heat content	2013	125,000 btu / gal	USEPA, 2012b
Heat content	2014	125,000 btu / gal	USEPA, 2012b
N2O to NOx ratio	2000	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2001	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2002	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2003	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2004	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2005	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2006	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2007	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2008	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2009	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2010	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2011	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2012	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2013	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2014	0.0416 g / g	ARB, 2014b

Activity = Fuel combustion - Renewable Diesel

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Renewable Diesel	2000	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2001	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2002	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2003	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2004	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2005	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2006	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2007	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2008	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2009	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2010	116,925 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2011	104,941 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2012	516,336 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2013	7,287,672 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2014	5,258,939 gal	Calculation, see text
EMFAC category fuel combustion	2000	172,445,630 gal	ARB, 2014a
EMFAC category fuel combustion	2001	164,611,324 gal	ARB, 2014a
EMFAC category fuel combustion	2002	175,884,492 gal	ARB, 2014a
EMFAC category fuel combustion	2003	173,376,615 gal	ARB, 2014a
EMFAC category fuel combustion	2004	176,657,793 gal	ARB, 2014a
EMFAC category fuel combustion	2005	169,474,078 gal	ARB, 2014a
EMFAC category fuel combustion	2006	174,308,337 gal	ARB, 2014a
EMFAC category fuel combustion	2007	172,133,826 gal	ARB, 2014a
EMFAC category fuel combustion	2008	162,236,984 gal	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC category fuel combustion	2009	156,489,229 gal	ARB, 2014a
EMFAC category fuel combustion	2010	160,431,746 gal	ARB, 2014a
EMFAC category fuel combustion	2011	158,514,123 gal	ARB, 2014a
EMFAC category fuel combustion	2012	154,568,152 gal	ARB, 2014a
EMFAC category fuel combustion	2013	148,759,505 gal	ARB, 2014a
EMFAC category fuel combustion	2014	142,130,137 gal	ARB, 2014a
EMFAC CH4 emission	2000	57.91 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	54.98 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	56.96 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	56.42 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	56.48 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	53.84 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	54.82 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	54.22 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	50.02 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2009	46.99 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2010	45.66 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2011	43.33 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2012	38.16 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2013	31.67 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2014	25.43 Mg (tonnes)	ARB, 2014a
EMFAC total fuel combustion	2000	2,660,379,546 gal	ARB, 2014a
EMFAC total fuel combustion	2001	2,666,890,335 gal	ARB, 2014a
EMFAC total fuel combustion	2002	2,757,421,172 gal	ARB, 2014a
EMFAC total fuel combustion	2003	2,781,714,949 gal	ARB, 2014a
EMFAC total fuel combustion	2004	2,952,751,396 gal	ARB, 2014a
EMFAC total fuel combustion	2005	3,071,891,727 gal	ARB, 2014a
EMFAC total fuel combustion	2006	3,141,453,525 gal	ARB, 2014a
EMFAC total fuel combustion	2007	3,191,774,423 gal	ARB, 2014a
EMFAC total fuel combustion	2008	2,922,281,862 gal	ARB, 2014a
EMFAC total fuel combustion	2009	2,682,967,285 gal	ARB, 2014a
EMFAC total fuel combustion	2010	2,703,263,445 gal	ARB, 2014a
EMFAC total fuel combustion	2011	2,724,183,652 gal	ARB, 2014a
EMFAC total fuel combustion	2012	2,725,962,176 gal	ARB, 2014a
EMFAC total fuel combustion	2013	2,771,644,965 gal	ARB, 2014a
EMFAC total fuel combustion	2014	2,825,543,622 gal	ARB, 2014a
Fraction of fuel mix	2000	0	TSD On-road
Fraction of fuel mix	2001	0	TSD On-road
Fraction of fuel mix	2002	0	TSD On-road
Fraction of fuel mix	2003	0	TSD On-road
Fraction of fuel mix	2004	0	TSD On-road
Fraction of fuel mix	2005	0	TSD On-road
Fraction of fuel mix	2006	0	TSD On-road
Fraction of fuel mix	2007	0	TSD On-road
Fraction of fuel mix	2008	0	TSD On-road
Fraction of fuel mix	2009	0	TSD On-road
Fraction of fuel mix	2010	7.605E-04	TSD On-road
Fraction of fuel mix	2011	6.877E-04	TSD On-road
Fraction of fuel mix	2012	3.498E-03	TSD On-road
Fraction of fuel mix	2013	0.0495	TSD On-road
Fraction of fuel mix	2014	0.0377	TSD On-road
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2001	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2002	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2003	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2004	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2005	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2006	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2007	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2008	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2009	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2010	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2011	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2012	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2013	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2014	0.332 g / gal	ARB, 2014b
Fuel sales	2000	2,632,760,095 gal	Covert, 2013
Fuel sales	2001	2,627,365,783 gal	Covert, 2013
Fuel sales	2002	2,700,122,539 gal	Covert, 2013
Fuel sales	2003	2,667,933,637 gal	BOE, 2015
Fuel sales	2004	2,842,332,046 gal	BOE, 2015
Fuel sales	2005	2,963,733,672 gal	BOE, 2015
Fuel sales	2006	2,994,049,134 gal	BOE, 2015
Fuel sales	2007	3,082,740,281 gal	BOE, 2015
Fuel sales	2008	2,827,526,205 gal	BOE, 2015
Fuel sales	2009	2,580,139,949 gal	BOE, 2015
Fuel sales	2010	2,590,655,088 gal	BOE, 2015
Fuel sales	2011	2,622,534,125 gal	BOE, 2015
Fuel sales	2012	2,603,545,631 gal	BOE, 2015
Fuel sales	2013	2,740,305,658 gal	BOE, 2015
Fuel sales	2014	2,776,180,358 gal	BOE, 2015
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b
Heat content	2014	138,000 btu / gal	USEPA, 2012b

► Sector = On Road : Heavy-duty Vehicles : Heavy-duty Trucks

Activity = Fuel combustion - Biodiesel

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Biodiesel	2000	1,836,172 gal	Calculation, see text
Fuel combustion - Biodiesel	2001	2,307,762 gal	Calculation, see text
Fuel combustion - Biodiesel	2002	3,686,560 gal	Calculation, see text
Fuel combustion - Biodiesel	2003	831,365 gal	Calculation, see text
Fuel combustion - Biodiesel	2004	1,298,287 gal	Calculation, see text
Fuel combustion - Biodiesel	2005	2,400,240 gal	Calculation, see text
Fuel combustion - Biodiesel	2006	18,320,091 gal	Calculation, see text
Fuel combustion - Biodiesel	2007	16,347,410 gal	Calculation, see text
Fuel combustion - Biodiesel	2008	10,937,138 gal	Calculation, see text
Fuel combustion - Biodiesel	2009	6,434,058 gal	Calculation, see text
Fuel combustion - Biodiesel	2010	5,002,984 gal	Calculation, see text
Fuel combustion - Biodiesel	2011	16,846,702 gal	Calculation, see text
Fuel combustion - Biodiesel	2012	18,900,828 gal	Calculation, see text
Fuel combustion - Biodiesel	2013	45,254,704 gal	Calculation, see text
Fuel combustion - Biodiesel	2014	52,668,937 gal	Calculation, see text
EMFAC category fuel combustion	2000	2,442,457,694 gal	ARB, 2014a
EMFAC category fuel combustion	2001	2,461,819,735 gal	ARB, 2014a
EMFAC category fuel combustion	2002	2,541,349,592 gal	ARB, 2014a
EMFAC category fuel combustion	2003	2,569,577,604 gal	ARB, 2014a
EMFAC category fuel combustion	2004	2,738,227,881 gal	ARB, 2014a
EMFAC category fuel combustion	2005	2,868,494,131 gal	ARB, 2014a
EMFAC category fuel combustion	2006	2,934,762,726 gal	ARB, 2014a
EMFAC category fuel combustion	2007	2,988,548,771 gal	ARB, 2014a
EMFAC category fuel combustion	2008	2,731,250,938 gal	ARB, 2014a
EMFAC category fuel combustion	2009	2,494,156,687 gal	ARB, 2014a
EMFAC category fuel combustion	2010	2,505,405,683 gal	ARB, 2014a
EMFAC category fuel combustion	2011	2,520,093,995 gal	ARB, 2014a
EMFAC category fuel combustion	2012	2,516,041,317 gal	ARB, 2014a
EMFAC category fuel combustion	2013	2,561,415,755 gal	ARB, 2014a
EMFAC category fuel combustion	2014	2,615,039,145 gal	ARB, 2014a
EMFAC CH4 emission	2000	876.18 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	852.05 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	876.2 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	878.69 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	916.91 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	898.81 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	909.37 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	897.78 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	788.22 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2009	689.18 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2010	636.28 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2011	615.39 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2012	512.27 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2013	415.7 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2014	288.97 Mg (tonnes)	ARB, 2014a
EMFAC total fuel combustion	2000	2,660,379,546 gal	ARB, 2014a
EMFAC total fuel combustion	2001	2,666,890,335 gal	ARB, 2014a
EMFAC total fuel combustion	2002	2,757,421,172 gal	ARB, 2014a
EMFAC total fuel combustion	2003	2,781,714,949 gal	ARB, 2014a
EMFAC total fuel combustion	2004	2,952,751,396 gal	ARB, 2014a
EMFAC total fuel combustion	2005	3,071,891,727 gal	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC total fuel combustion	2006	3,141,453,525 gal	ARB, 2014a
EMFAC total fuel combustion	2007	3,191,774,423 gal	ARB, 2014a
EMFAC total fuel combustion	2008	2,922,281,862 gal	ARB, 2014a
EMFAC total fuel combustion	2009	2,682,967,285 gal	ARB, 2014a
EMFAC total fuel combustion	2010	2,703,263,445 gal	ARB, 2014a
EMFAC total fuel combustion	2011	2,724,183,652 gal	ARB, 2014a
EMFAC total fuel combustion	2012	2,725,962,176 gal	ARB, 2014a
EMFAC total fuel combustion	2013	2,771,644,965 gal	ARB, 2014a
EMFAC total fuel combustion	2014	2,825,543,622 gal	ARB, 2014a
Fraction of fuel mix	2000	7.597E-04	TSD On-road
Fraction of fuel mix	2001	9.515E-04	TSD On-road
Fraction of fuel mix	2002	1.481E-03	TSD On-road
Fraction of fuel mix	2003	3.373E-04	TSD On-road
Fraction of fuel mix	2004	4.926E-04	TSD On-road
Fraction of fuel mix	2005	8.673E-04	TSD On-road
Fraction of fuel mix	2006	6.550E-03	TSD On-road
Fraction of fuel mix	2007	5.663E-03	TSD On-road
Fraction of fuel mix	2008	4.139E-03	TSD On-road
Fraction of fuel mix	2009	2.682E-03	TSD On-road
Fraction of fuel mix	2010	2.084E-03	TSD On-road
Fraction of fuel mix	2011	6.944E-03	TSD On-road
Fraction of fuel mix	2012	7.865E-03	TSD On-road
Fraction of fuel mix	2013	0.0179	TSD On-road
Fraction of fuel mix	2014	0.0205	TSD On-road
Fuel CO2 emission	2000	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.0738 g / btu	USEPA, 2012b
Fuel N2O emission	2000	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2001	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2002	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2003	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2004	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2005	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2006	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2007	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2008	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2009	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2010	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2011	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2012	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2013	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2014	0.332 g / gal	ARB, 2014b
Fuel sales	2000	2,632,760,095 gal	Covert, 2013

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel sales	2001	2,627,365,783 gal	Covert, 2013
Fuel sales	2002	2,700,122,539 gal	Covert, 2013
Fuel sales	2003	2,667,933,637 gal	BOE, 2015
Fuel sales	2004	2,842,332,046 gal	BOE, 2015
Fuel sales	2005	2,963,733,672 gal	BOE, 2015
Fuel sales	2006	2,994,049,134 gal	BOE, 2015
Fuel sales	2007	3,082,740,281 gal	BOE, 2015
Fuel sales	2008	2,827,526,205 gal	BOE, 2015
Fuel sales	2009	2,580,139,949 gal	BOE, 2015
Fuel sales	2010	2,590,655,088 gal	BOE, 2015
Fuel sales	2011	2,622,534,125 gal	BOE, 2015
Fuel sales	2012	2,603,545,631 gal	BOE, 2015
Fuel sales	2013	2,740,305,658 gal	BOE, 2015
Fuel sales	2014	2,776,180,358 gal	BOE, 2015
Heat content	2000	128,000 btu / gal	USEPA, 2012b
Heat content	2001	128,000 btu / gal	USEPA, 2012b
Heat content	2002	128,000 btu / gal	USEPA, 2012b
Heat content	2003	128,000 btu / gal	USEPA, 2012b
Heat content	2004	128,000 btu / gal	USEPA, 2012b
Heat content	2005	128,000 btu / gal	USEPA, 2012b
Heat content	2006	128,000 btu / gal	USEPA, 2012b
Heat content	2007	128,000 btu / gal	USEPA, 2012b
Heat content	2008	128,000 btu / gal	USEPA, 2012b
Heat content	2009	128,000 btu / gal	USEPA, 2012b
Heat content	2010	128,000 btu / gal	USEPA, 2012b
Heat content	2011	128,000 btu / gal	USEPA, 2012b
Heat content	2012	128,000 btu / gal	USEPA, 2012b
Heat content	2013	128,000 btu / gal	USEPA, 2012b
Heat content	2014	128,000 btu / gal	USEPA, 2012b

Activity = Fuel combustion - Distillate

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Distillate	2000	2,415,264,486 gal	Calculation, see text
Fuel combustion - Distillate	2001	2,423,026,662 gal	Calculation, see text
Fuel combustion - Distillate	2002	2,484,854,321 gal	Calculation, see text
Fuel combustion - Distillate	2003	2,463,642,044 gal	Calculation, see text
Fuel combustion - Distillate	2004	2,634,532,438 gal	Calculation, see text
Fuel combustion - Distillate	2005	2,765,097,250 gal	Calculation, see text
Fuel combustion - Distillate	2006	2,778,736,662 gal	Calculation, see text
Fuel combustion - Distillate	2007	2,870,109,606 gal	Calculation, see text
Fuel combustion - Distillate	2008	2,631,752,365 gal	Calculation, see text
Fuel combustion - Distillate	2009	2,392,131,643 gal	Calculation, see text
Fuel combustion - Distillate	2010	2,394,210,425 gal	Calculation, see text
Fuel combustion - Distillate	2011	2,407,544,743 gal	Calculation, see text
Fuel combustion - Distillate	2012	2,375,746,134 gal	Calculation, see text
Fuel combustion - Distillate	2013	2,361,716,037 gal	Calculation, see text
Fuel combustion - Distillate	2014	2,419,925,807 gal	Calculation, see text
EMFAC category fuel combustion	2000	2,442,457,694 gal	ARB, 2014a
EMFAC category fuel combustion	2001	2,461,819,735 gal	ARB, 2014a
EMFAC category fuel combustion	2002	2,541,349,592 gal	ARB, 2014a
EMFAC category fuel combustion	2003	2,569,577,604 gal	ARB, 2014a
EMFAC category fuel combustion	2004	2,738,227,881 gal	ARB, 2014a
EMFAC category fuel combustion	2005	2,868,494,131 gal	ARB, 2014a
EMFAC category fuel combustion	2006	2,934,762,726 gal	ARB, 2014a
EMFAC category fuel combustion	2007	2,988,548,771 gal	ARB, 2014a
EMFAC category fuel combustion	2008	2,731,250,938 gal	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC category fuel combustion	2009	2,494,156,687 gal	ARB, 2014a
EMFAC category fuel combustion	2010	2,505,405,683 gal	ARB, 2014a
EMFAC category fuel combustion	2011	2,520,093,995 gal	ARB, 2014a
EMFAC category fuel combustion	2012	2,516,041,317 gal	ARB, 2014a
EMFAC category fuel combustion	2013	2,561,415,755 gal	ARB, 2014a
EMFAC category fuel combustion	2014	2,615,039,145 gal	ARB, 2014a
EMFAC CH4 emission	2000	876.18 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	852.05 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	876.2 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	878.69 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	916.91 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	898.81 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	909.37 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	897.78 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	788.22 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2009	689.18 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2010	636.28 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2011	615.39 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2012	512.27 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2013	415.7 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2014	288.97 Mg (tonnes)	ARB, 2014a
EMFAC total fuel combustion	2000	2,660,379,546 gal	ARB, 2014a
EMFAC total fuel combustion	2001	2,666,890,335 gal	ARB, 2014a
EMFAC total fuel combustion	2002	2,757,421,172 gal	ARB, 2014a
EMFAC total fuel combustion	2003	2,781,714,949 gal	ARB, 2014a
EMFAC total fuel combustion	2004	2,952,751,396 gal	ARB, 2014a
EMFAC total fuel combustion	2005	3,071,891,727 gal	ARB, 2014a
EMFAC total fuel combustion	2006	3,141,453,525 gal	ARB, 2014a
EMFAC total fuel combustion	2007	3,191,774,423 gal	ARB, 2014a
EMFAC total fuel combustion	2008	2,922,281,862 gal	ARB, 2014a
EMFAC total fuel combustion	2009	2,682,967,285 gal	ARB, 2014a
EMFAC total fuel combustion	2010	2,703,263,445 gal	ARB, 2014a
EMFAC total fuel combustion	2011	2,724,183,652 gal	ARB, 2014a
EMFAC total fuel combustion	2012	2,725,962,176 gal	ARB, 2014a
EMFAC total fuel combustion	2013	2,771,644,965 gal	ARB, 2014a
EMFAC total fuel combustion	2014	2,825,543,622 gal	ARB, 2014a
Fraction of fuel mix	2000	0.999	TSD On-road
Fraction of fuel mix	2001	0.999	TSD On-road
Fraction of fuel mix	2002	0.999	TSD On-road
Fraction of fuel mix	2003	1	TSD On-road
Fraction of fuel mix	2004	1	TSD On-road
Fraction of fuel mix	2005	0.999	TSD On-road
Fraction of fuel mix	2006	0.993	TSD On-road
Fraction of fuel mix	2007	0.994	TSD On-road
Fraction of fuel mix	2008	0.996	TSD On-road
Fraction of fuel mix	2009	0.997	TSD On-road
Fraction of fuel mix	2010	0.997	TSD On-road
Fraction of fuel mix	2011	0.992	TSD On-road
Fraction of fuel mix	2012	0.989	TSD On-road
Fraction of fuel mix	2013	0.933	TSD On-road
Fraction of fuel mix	2014	0.942	TSD On-road
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2001	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2002	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2003	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2004	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2005	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2006	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2007	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2008	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2009	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2010	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2011	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2012	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2013	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2014	0.332 g / gal	ARB, 2014b
Fuel sales	2000	2,632,760,095 gal	Covert, 2013
Fuel sales	2001	2,627,365,783 gal	Covert, 2013
Fuel sales	2002	2,700,122,539 gal	Covert, 2013
Fuel sales	2003	2,667,933,637 gal	BOE, 2015
Fuel sales	2004	2,842,332,046 gal	BOE, 2015
Fuel sales	2005	2,963,733,672 gal	BOE, 2015
Fuel sales	2006	2,994,049,134 gal	BOE, 2015
Fuel sales	2007	3,082,740,281 gal	BOE, 2015
Fuel sales	2008	2,827,526,205 gal	BOE, 2015
Fuel sales	2009	2,580,139,949 gal	BOE, 2015
Fuel sales	2010	2,590,655,088 gal	BOE, 2015
Fuel sales	2011	2,622,534,125 gal	BOE, 2015
Fuel sales	2012	2,603,545,631 gal	BOE, 2015
Fuel sales	2013	2,740,305,658 gal	BOE, 2015
Fuel sales	2014	2,776,180,358 gal	BOE, 2015
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b
Heat content	2014	138,000 btu / gal	USEPA, 2012b

Activity = Fuel combustion - Ethanol

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Ethanol	2000	3,457,296 gal	Calculation, see text
Fuel combustion - Ethanol	2001	4,619,179 gal	Calculation, see text
Fuel combustion - Ethanol	2002	5,688,326 gal	Calculation, see text
Fuel combustion - Ethanol	2003	35,032,428 gal	Calculation, see text
Fuel combustion - Ethanol	2004	53,313,593 gal	Calculation, see text
Fuel combustion - Ethanol	2005	54,816,535 gal	Calculation, see text
Fuel combustion - Ethanol	2006	55,390,791 gal	Calculation, see text
Fuel combustion - Ethanol	2007	53,923,607 gal	Calculation, see text
Fuel combustion - Ethanol	2008	55,766,108 gal	Calculation, see text
Fuel combustion - Ethanol	2009	52,763,803 gal	Calculation, see text
Fuel combustion - Ethanol	2010	77,489,304 gal	Calculation, see text
Fuel combustion - Ethanol	2011	79,040,683 gal	Calculation, see text
Fuel combustion - Ethanol	2012	69,551,241 gal	Calculation, see text
Fuel combustion - Ethanol	2013	74,855,630 gal	Calculation, see text
Fuel combustion - Ethanol	2014	76,788,864 gal	Calculation, see text
EMFAC category fuel combustion	2000	924,493,827 gal	ARB, 2014a
EMFAC category fuel combustion	2001	918,491,913 gal	ARB, 2014a
EMFAC category fuel combustion	2002	966,879,627 gal	ARB, 2014a
EMFAC category fuel combustion	2003	1,025,829,313 gal	ARB, 2014a
EMFAC category fuel combustion	2004	1,042,604,878 gal	ARB, 2014a
EMFAC category fuel combustion	2005	1,009,206,367 gal	ARB, 2014a
EMFAC category fuel combustion	2006	1,022,202,971 gal	ARB, 2014a
EMFAC category fuel combustion	2007	993,159,369 gal	ARB, 2014a
EMFAC category fuel combustion	2008	931,576,150 gal	ARB, 2014a
EMFAC category fuel combustion	2009	872,371,478 gal	ARB, 2014a
EMFAC category fuel combustion	2010	833,577,985 gal	ARB, 2014a
EMFAC category fuel combustion	2011	782,437,808 gal	ARB, 2014a
EMFAC category fuel combustion	2012	731,174,007 gal	ARB, 2014a
EMFAC category fuel combustion	2013	683,473,038 gal	ARB, 2014a
EMFAC category fuel combustion	2014	652,429,808 gal	ARB, 2014a
EMFAC CH4 emission	2000	1.68 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	1.55 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	1.45 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	1.42 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	1.85 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	1.63 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	1.46 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	1.28 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	1.12 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2009	980.87 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2010	902.16 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2011	809.05 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2012	722.23 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2013	630.14 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2014	561.83 Mg (tonnes)	ARB, 2014a
EMFAC NOx emission	2000	25.18 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2001	23.49 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2002	22.37 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2003	22.24 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2004	20.83 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2005	19.3 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2006	18.33 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2007	17.21 Gg (thousand tonnes)	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC NOx emission	2008	15.81 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2009	14.45 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2010	13.72 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2011	12.78 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2012	11.88 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2013	10.89 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2014	10.08 Gg (thousand tonnes)	ARB, 2014a
EMFAC total fuel combustion	2000	14,854,521,063 gal	ARB, 2014a
EMFAC total fuel combustion	2001	14,974,619,512 gal	ARB, 2014a
EMFAC total fuel combustion	2002	15,623,665,999 gal	ARB, 2014a
EMFAC total fuel combustion	2003	15,849,299,959 gal	ARB, 2014a
EMFAC total fuel combustion	2004	16,172,230,459 gal	ARB, 2014a
EMFAC total fuel combustion	2005	16,189,185,002 gal	ARB, 2014a
EMFAC total fuel combustion	2006	16,143,192,555 gal	ARB, 2014a
EMFAC total fuel combustion	2007	15,977,349,137 gal	ARB, 2014a
EMFAC total fuel combustion	2008	15,311,004,402 gal	ARB, 2014a
EMFAC total fuel combustion	2009	15,189,522,999 gal	ARB, 2014a
EMFAC total fuel combustion	2010	15,184,580,322 gal	ARB, 2014a
EMFAC total fuel combustion	2011	14,885,198,863 gal	ARB, 2014a
EMFAC total fuel combustion	2012	14,593,712,753 gal	ARB, 2014a
EMFAC total fuel combustion	2013	14,374,193,920 gal	ARB, 2014a
EMFAC total fuel combustion	2014	14,440,544,810 gal	ARB, 2014a
Fraction of fuel mix	2000	3.763E-03	TSD On-road
Fraction of fuel mix	2001	5.063E-03	TSD On-road
Fraction of fuel mix	2002	5.931E-03	TSD On-road
Fraction of fuel mix	2003	0.0346	TSD On-road
Fraction of fuel mix	2004	0.0521	TSD On-road
Fraction of fuel mix	2005	0.0553	TSD On-road
Fraction of fuel mix	2006	0.0554	TSD On-road
Fraction of fuel mix	2007	0.0555	TSD On-road
Fraction of fuel mix	2008	0.0611	TSD On-road
Fraction of fuel mix	2009	0.0621	TSD On-road
Fraction of fuel mix	2010	0.095	TSD On-road
Fraction of fuel mix	2011	0.103	TSD On-road
Fraction of fuel mix	2012	0.0958	TSD On-road
Fraction of fuel mix	2013	0.108	TSD On-road
Fraction of fuel mix	2014	0.116	TSD On-road
Fuel CO2 emission	2000	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2001	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2002	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2003	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2004	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2005	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2006	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2007	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2008	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2009	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2010	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2011	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2012	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2013	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2014	0.0684 g / btu	TSD On-road
Fuel sales	2000	14,760,642,277 gal	Covert, 2013
Fuel sales	2001	14,873,287,328 gal	Covert, 2013
Fuel sales	2002	15,497,850,137 gal	Covert, 2013

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel sales	2003	15,660,106,873 gal	BOE, 2015
Fuel sales	2004	15,882,228,670 gal	BOE, 2015
Fuel sales	2005	15,912,767,049 gal	BOE, 2015
Fuel sales	2006	15,802,491,301 gal	BOE, 2015
Fuel sales	2007	15,644,532,462 gal	BOE, 2015
Fuel sales	2008	15,007,122,838 gal	BOE, 2015
Fuel sales	2009	14,791,632,891 gal	BOE, 2015
Fuel sales	2010	14,851,505,738 gal	BOE, 2015
Fuel sales	2011	14,583,411,578 gal	BOE, 2015
Fuel sales	2012	14,487,897,816 gal	BOE, 2015
Fuel sales	2013	14,516,519,877 gal	BOE, 2015
Fuel sales	2014	14,686,723,856 gal	BOE, 2015
Heat content	2000	84,000 btu / gal	USEPA, 2012b
Heat content	2001	84,000 btu / gal	USEPA, 2012b
Heat content	2002	84,000 btu / gal	USEPA, 2012b
Heat content	2003	84,000 btu / gal	USEPA, 2012b
Heat content	2004	84,000 btu / gal	USEPA, 2012b
Heat content	2005	84,000 btu / gal	USEPA, 2012b
Heat content	2006	84,000 btu / gal	USEPA, 2012b
Heat content	2007	84,000 btu / gal	USEPA, 2012b
Heat content	2008	84,000 btu / gal	USEPA, 2012b
Heat content	2009	84,000 btu / gal	USEPA, 2012b
Heat content	2010	84,000 btu / gal	USEPA, 2012b
Heat content	2011	84,000 btu / gal	USEPA, 2012b
Heat content	2012	84,000 btu / gal	USEPA, 2012b
Heat content	2013	84,000 btu / gal	USEPA, 2012b
Heat content	2014	84,000 btu / gal	USEPA, 2012b
N2O to NOx ratio	2000	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2001	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2002	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2003	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2004	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2005	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2006	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2007	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2008	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2009	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2010	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2011	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2012	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2013	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2014	0.0416 g / g	ARB, 2014b

Activity = Fuel combustion - Gasoline

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Gasoline	2000	915,193,841 gal	Calculation, see text
Fuel combustion - Gasoline	2001	907,657,364 gal	Calculation, see text
Fuel combustion - Gasoline	2002	953,405,113 gal	Calculation, see text
Fuel combustion - Gasoline	2003	978,551,561 gal	Calculation, see text
Fuel combustion - Gasoline	2004	970,595,207 gal	Calculation, see text
Fuel combustion - Gasoline	2005	937,158,405 gal	Calculation, see text
Fuel combustion - Gasoline	2006	945,238,639 gal	Calculation, see text
Fuel combustion - Gasoline	2007	918,547,725 gal	Calculation, see text
Fuel combustion - Gasoline	2008	857,320,803 gal	Calculation, see text
Fuel combustion - Gasoline	2009	796,755,873 gal	Calculation, see text
Fuel combustion - Gasoline	2010	737,804,104 gal	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel combustion - Gasoline	2011	687,533,730 gal	Calculation, see text
Fuel combustion - Gasoline	2012	656,321,227 gal	Calculation, see text
Fuel combustion - Gasoline	2013	615,384,811 gal	Calculation, see text
Fuel combustion - Gasoline	2014	586,763,416 gal	Calculation, see text
EMFAC category fuel combustion	2000	924,493,827 gal	ARB, 2014a
EMFAC category fuel combustion	2001	918,491,913 gal	ARB, 2014a
EMFAC category fuel combustion	2002	966,879,627 gal	ARB, 2014a
EMFAC category fuel combustion	2003	1,025,829,313 gal	ARB, 2014a
EMFAC category fuel combustion	2004	1,042,604,878 gal	ARB, 2014a
EMFAC category fuel combustion	2005	1,009,206,367 gal	ARB, 2014a
EMFAC category fuel combustion	2006	1,022,202,971 gal	ARB, 2014a
EMFAC category fuel combustion	2007	993,159,369 gal	ARB, 2014a
EMFAC category fuel combustion	2008	931,576,150 gal	ARB, 2014a
EMFAC category fuel combustion	2009	872,371,478 gal	ARB, 2014a
EMFAC category fuel combustion	2010	833,577,985 gal	ARB, 2014a
EMFAC category fuel combustion	2011	782,437,808 gal	ARB, 2014a
EMFAC category fuel combustion	2012	731,174,007 gal	ARB, 2014a
EMFAC category fuel combustion	2013	683,473,038 gal	ARB, 2014a
EMFAC category fuel combustion	2014	652,429,808 gal	ARB, 2014a
EMFAC CH4 emission	2000	1.68 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	1.55 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	1.45 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	1.42 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	1.85 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	1.63 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	1.46 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	1.28 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	1.12 Gg (thousand tonnes)	ARB, 2014a
EMFAC CH4 emission	2009	980.87 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2010	902.16 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2011	809.05 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2012	722.23 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2013	630.14 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2014	561.83 Mg (tonnes)	ARB, 2014a
EMFAC NOx emission	2000	25.18 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2001	23.49 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2002	22.37 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2003	22.24 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2004	20.83 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2005	19.3 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2006	18.33 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2007	17.21 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2008	15.81 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2009	14.45 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2010	13.72 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2011	12.78 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2012	11.88 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2013	10.89 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2014	10.08 Gg (thousand tonnes)	ARB, 2014a
EMFAC total fuel combustion	2000	14,854,521,063 gal	ARB, 2014a
EMFAC total fuel combustion	2001	14,974,619,512 gal	ARB, 2014a
EMFAC total fuel combustion	2002	15,623,665,999 gal	ARB, 2014a
EMFAC total fuel combustion	2003	15,849,299,959 gal	ARB, 2014a
EMFAC total fuel combustion	2004	16,172,230,459 gal	ARB, 2014a
EMFAC total fuel combustion	2005	16,189,185,002 gal	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC total fuel combustion	2006	16,143,192,555 gal	ARB, 2014a
EMFAC total fuel combustion	2007	15,977,349,137 gal	ARB, 2014a
EMFAC total fuel combustion	2008	15,311,004,402 gal	ARB, 2014a
EMFAC total fuel combustion	2009	15,189,522,999 gal	ARB, 2014a
EMFAC total fuel combustion	2010	15,184,580,322 gal	ARB, 2014a
EMFAC total fuel combustion	2011	14,885,198,863 gal	ARB, 2014a
EMFAC total fuel combustion	2012	14,593,712,753 gal	ARB, 2014a
EMFAC total fuel combustion	2013	14,374,193,920 gal	ARB, 2014a
EMFAC total fuel combustion	2014	14,440,544,810 gal	ARB, 2014a
Fraction of fuel mix	2000	0.996	TSD On-road
Fraction of fuel mix	2001	0.995	TSD On-road
Fraction of fuel mix	2002	0.994	TSD On-road
Fraction of fuel mix	2003	0.965	TSD On-road
Fraction of fuel mix	2004	0.948	TSD On-road
Fraction of fuel mix	2005	0.945	TSD On-road
Fraction of fuel mix	2006	0.945	TSD On-road
Fraction of fuel mix	2007	0.945	TSD On-road
Fraction of fuel mix	2008	0.939	TSD On-road
Fraction of fuel mix	2009	0.938	TSD On-road
Fraction of fuel mix	2010	0.905	TSD On-road
Fraction of fuel mix	2011	0.897	TSD On-road
Fraction of fuel mix	2012	0.904	TSD On-road
Fraction of fuel mix	2013	0.892	TSD On-road
Fraction of fuel mix	2014	0.884	TSD On-road
Fuel CO2 emission	2000	0.0709 g / btu	TSD On-road
Fuel CO2 emission	2001	0.0709 g / btu	TSD On-road
Fuel CO2 emission	2002	0.0711 g / btu	TSD On-road
Fuel CO2 emission	2003	0.071 g / btu	TSD On-road
Fuel CO2 emission	2004	0.0711 g / btu	TSD On-road
Fuel CO2 emission	2005	0.071 g / btu	TSD On-road
Fuel CO2 emission	2006	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2007	0.0717 g / btu	TSD On-road
Fuel CO2 emission	2008	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2009	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2010	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2011	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2012	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2013	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2014	0.0713 g / btu	TSD On-road
Fuel sales	2000	14,760,642,277 gal	Covert, 2013
Fuel sales	2001	14,873,287,328 gal	Covert, 2013
Fuel sales	2002	15,497,850,137 gal	Covert, 2013
Fuel sales	2003	15,660,106,873 gal	BOE, 2015
Fuel sales	2004	15,882,228,670 gal	BOE, 2015
Fuel sales	2005	15,912,767,049 gal	BOE, 2015
Fuel sales	2006	15,802,491,301 gal	BOE, 2015
Fuel sales	2007	15,644,532,462 gal	BOE, 2015
Fuel sales	2008	15,007,122,838 gal	BOE, 2015
Fuel sales	2009	14,791,632,891 gal	BOE, 2015
Fuel sales	2010	14,851,505,738 gal	BOE, 2015
Fuel sales	2011	14,583,411,578 gal	BOE, 2015
Fuel sales	2012	14,487,897,816 gal	BOE, 2015
Fuel sales	2013	14,516,519,877 gal	BOE, 2015
Fuel sales	2014	14,686,723,856 gal	BOE, 2015
Heat content	2000	125,000 btu / gal	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Heat content	2001	125,000 btu / gal	USEPA, 2012b
Heat content	2002	125,000 btu / gal	USEPA, 2012b
Heat content	2003	125,000 btu / gal	USEPA, 2012b
Heat content	2004	125,000 btu / gal	USEPA, 2012b
Heat content	2005	125,000 btu / gal	USEPA, 2012b
Heat content	2006	125,000 btu / gal	USEPA, 2012b
Heat content	2007	125,000 btu / gal	USEPA, 2012b
Heat content	2008	125,000 btu / gal	USEPA, 2012b
Heat content	2009	125,000 btu / gal	USEPA, 2012b
Heat content	2010	125,000 btu / gal	USEPA, 2012b
Heat content	2011	125,000 btu / gal	USEPA, 2012b
Heat content	2012	125,000 btu / gal	USEPA, 2012b
Heat content	2013	125,000 btu / gal	USEPA, 2012b
Heat content	2014	125,000 btu / gal	USEPA, 2012b
N2O to NOx ratio	2000	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2001	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2002	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2003	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2004	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2005	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2006	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2007	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2008	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2009	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2010	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2011	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2012	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2013	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2014	0.0416 g / g	ARB, 2014b

Activity = Fuel combustion - Renewable Diesel

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Renewable Diesel	2000	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2001	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2002	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2003	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2004	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2005	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2006	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2007	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2008	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2009	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2010	1,825,969 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2011	1,668,375 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2012	8,404,861 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2013	125,482,792 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2014	96,758,727 gal	Calculation, see text
EMFAC category fuel combustion	2000	2,442,457,694 gal	ARB, 2014a
EMFAC category fuel combustion	2001	2,461,819,735 gal	ARB, 2014a
EMFAC category fuel combustion	2002	2,541,349,592 gal	ARB, 2014a
EMFAC category fuel combustion	2003	2,569,577,604 gal	ARB, 2014a
EMFAC category fuel combustion	2004	2,738,227,881 gal	ARB, 2014a
EMFAC category fuel combustion	2005	2,868,494,131 gal	ARB, 2014a
EMFAC category fuel combustion	2006	2,934,762,726 gal	ARB, 2014a
EMFAC category fuel combustion	2007	2,988,548,771 gal	ARB, 2014a
EMFAC category fuel combustion	2008	2,731,250,938 gal	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC category fuel combustion	2009	2,494,156,687 gal	ARB, 2014a
EMFAC category fuel combustion	2010	2,505,405,683 gal	ARB, 2014a
EMFAC category fuel combustion	2011	2,520,093,995 gal	ARB, 2014a
EMFAC category fuel combustion	2012	2,516,041,317 gal	ARB, 2014a
EMFAC category fuel combustion	2013	2,561,415,755 gal	ARB, 2014a
EMFAC category fuel combustion	2014	2,615,039,145 gal	ARB, 2014a
EMFAC CH4 emission	2000	876.18 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	852.05 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	876.2 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	878.69 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	916.91 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	898.81 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	909.37 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	897.78 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	788.22 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2009	689.18 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2010	636.28 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2011	615.39 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2012	512.27 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2013	415.7 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2014	288.97 Mg (tonnes)	ARB, 2014a
EMFAC total fuel combustion	2000	2,660,379,546 gal	ARB, 2014a
EMFAC total fuel combustion	2001	2,666,890,335 gal	ARB, 2014a
EMFAC total fuel combustion	2002	2,757,421,172 gal	ARB, 2014a
EMFAC total fuel combustion	2003	2,781,714,949 gal	ARB, 2014a
EMFAC total fuel combustion	2004	2,952,751,396 gal	ARB, 2014a
EMFAC total fuel combustion	2005	3,071,891,727 gal	ARB, 2014a
EMFAC total fuel combustion	2006	3,141,453,525 gal	ARB, 2014a
EMFAC total fuel combustion	2007	3,191,774,423 gal	ARB, 2014a
EMFAC total fuel combustion	2008	2,922,281,862 gal	ARB, 2014a
EMFAC total fuel combustion	2009	2,682,967,285 gal	ARB, 2014a
EMFAC total fuel combustion	2010	2,703,263,445 gal	ARB, 2014a
EMFAC total fuel combustion	2011	2,724,183,652 gal	ARB, 2014a
EMFAC total fuel combustion	2012	2,725,962,176 gal	ARB, 2014a
EMFAC total fuel combustion	2013	2,771,644,965 gal	ARB, 2014a
EMFAC total fuel combustion	2014	2,825,543,622 gal	ARB, 2014a
Fraction of fuel mix	2000	0	TSD On-road
Fraction of fuel mix	2001	0	TSD On-road
Fraction of fuel mix	2002	0	TSD On-road
Fraction of fuel mix	2003	0	TSD On-road
Fraction of fuel mix	2004	0	TSD On-road
Fraction of fuel mix	2005	0	TSD On-road
Fraction of fuel mix	2006	0	TSD On-road
Fraction of fuel mix	2007	0	TSD On-road
Fraction of fuel mix	2008	0	TSD On-road
Fraction of fuel mix	2009	0	TSD On-road
Fraction of fuel mix	2010	7.605E-04	TSD On-road
Fraction of fuel mix	2011	6.877E-04	TSD On-road
Fraction of fuel mix	2012	3.498E-03	TSD On-road
Fraction of fuel mix	2013	0.0495	TSD On-road
Fraction of fuel mix	2014	0.0377	TSD On-road
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2001	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2002	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2003	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2004	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2005	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2006	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2007	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2008	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2009	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2010	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2011	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2012	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2013	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2014	0.332 g / gal	ARB, 2014b
Fuel sales	2000	2,632,760,095 gal	Covert, 2013
Fuel sales	2001	2,627,365,783 gal	Covert, 2013
Fuel sales	2002	2,700,122,539 gal	Covert, 2013
Fuel sales	2003	2,667,933,637 gal	BOE, 2015
Fuel sales	2004	2,842,332,046 gal	BOE, 2015
Fuel sales	2005	2,963,733,672 gal	BOE, 2015
Fuel sales	2006	2,994,049,134 gal	BOE, 2015
Fuel sales	2007	3,082,740,281 gal	BOE, 2015
Fuel sales	2008	2,827,526,205 gal	BOE, 2015
Fuel sales	2009	2,580,139,949 gal	BOE, 2015
Fuel sales	2010	2,590,655,088 gal	BOE, 2015
Fuel sales	2011	2,622,534,125 gal	BOE, 2015
Fuel sales	2012	2,603,545,631 gal	BOE, 2015
Fuel sales	2013	2,740,305,658 gal	BOE, 2015
Fuel sales	2014	2,776,180,358 gal	BOE, 2015
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b
Heat content	2014	138,000 btu / gal	USEPA, 2012b

► Sector = On Road : Heavy-duty Vehicles : Motorhomes

Activity = Fuel combustion - Biodiesel

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Biodiesel	2000	3,025 gal	Calculation, see text
Fuel combustion - Biodiesel	2001	4,208 gal	Calculation, see text
Fuel combustion - Biodiesel	2002	7,492 gal	Calculation, see text
Fuel combustion - Biodiesel	2003	2,002 gal	Calculation, see text
Fuel combustion - Biodiesel	2004	3,374 gal	Calculation, see text
Fuel combustion - Biodiesel	2005	6,714 gal	Calculation, see text
Fuel combustion - Biodiesel	2006	55,727 gal	Calculation, see text
Fuel combustion - Biodiesel	2007	52,594 gal	Calculation, see text
Fuel combustion - Biodiesel	2008	37,982 gal	Calculation, see text
Fuel combustion - Biodiesel	2009	24,477 gal	Calculation, see text
Fuel combustion - Biodiesel	2010	18,732 gal	Calculation, see text
Fuel combustion - Biodiesel	2011	60,655 gal	Calculation, see text
Fuel combustion - Biodiesel	2012	66,284 gal	Calculation, see text
Fuel combustion - Biodiesel	2013	150,250 gal	Calculation, see text
Fuel combustion - Biodiesel	2014	169,391 gal	Calculation, see text
EMFAC category fuel combustion	2000	4,023,517 gal	ARB, 2014a
EMFAC category fuel combustion	2001	4,489,374 gal	ARB, 2014a
EMFAC category fuel combustion	2002	5,164,498 gal	ARB, 2014a
EMFAC category fuel combustion	2003	6,188,913 gal	ARB, 2014a
EMFAC category fuel combustion	2004	7,116,361 gal	ARB, 2014a
EMFAC category fuel combustion	2005	8,023,484 gal	ARB, 2014a
EMFAC category fuel combustion	2006	8,927,138 gal	ARB, 2014a
EMFAC category fuel combustion	2007	9,614,971 gal	ARB, 2014a
EMFAC category fuel combustion	2008	9,485,018 gal	ARB, 2014a
EMFAC category fuel combustion	2009	9,488,356 gal	ARB, 2014a
EMFAC category fuel combustion	2010	9,380,745 gal	ARB, 2014a
EMFAC category fuel combustion	2011	9,073,327 gal	ARB, 2014a
EMFAC category fuel combustion	2012	8,823,556 gal	ARB, 2014a
EMFAC category fuel combustion	2013	8,504,167 gal	ARB, 2014a
EMFAC category fuel combustion	2014	8,410,354 gal	ARB, 2014a
EMFAC CH4 emission	2000	420.74 kg	ARB, 2014a
EMFAC CH4 emission	2001	437.26 kg	ARB, 2014a
EMFAC CH4 emission	2002	467.23 kg	ARB, 2014a
EMFAC CH4 emission	2003	516.18 kg	ARB, 2014a
EMFAC CH4 emission	2004	535.1 kg	ARB, 2014a
EMFAC CH4 emission	2005	560.36 kg	ARB, 2014a
EMFAC CH4 emission	2006	586.81 kg	ARB, 2014a
EMFAC CH4 emission	2007	600.18 kg	ARB, 2014a
EMFAC CH4 emission	2008	579.34 kg	ARB, 2014a
EMFAC CH4 emission	2009	586.77 kg	ARB, 2014a
EMFAC CH4 emission	2010	585.57 kg	ARB, 2014a
EMFAC CH4 emission	2011	570.82 kg	ARB, 2014a
EMFAC CH4 emission	2012	559.14 kg	ARB, 2014a
EMFAC CH4 emission	2013	536.68 kg	ARB, 2014a
EMFAC CH4 emission	2014	525.64 kg	ARB, 2014a
EMFAC total fuel combustion	2000	2,660,379,546 gal	ARB, 2014a
EMFAC total fuel combustion	2001	2,666,890,335 gal	ARB, 2014a
EMFAC total fuel combustion	2002	2,757,421,172 gal	ARB, 2014a
EMFAC total fuel combustion	2003	2,781,714,949 gal	ARB, 2014a
EMFAC total fuel combustion	2004	2,952,751,396 gal	ARB, 2014a
EMFAC total fuel combustion	2005	3,071,891,727 gal	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC total fuel combustion	2006	3,141,453,525 gal	ARB, 2014a
EMFAC total fuel combustion	2007	3,191,774,423 gal	ARB, 2014a
EMFAC total fuel combustion	2008	2,922,281,862 gal	ARB, 2014a
EMFAC total fuel combustion	2009	2,682,967,285 gal	ARB, 2014a
EMFAC total fuel combustion	2010	2,703,263,445 gal	ARB, 2014a
EMFAC total fuel combustion	2011	2,724,183,652 gal	ARB, 2014a
EMFAC total fuel combustion	2012	2,725,962,176 gal	ARB, 2014a
EMFAC total fuel combustion	2013	2,771,644,965 gal	ARB, 2014a
EMFAC total fuel combustion	2014	2,825,543,622 gal	ARB, 2014a
Fraction of fuel mix	2000	7.597E-04	TSD On-road
Fraction of fuel mix	2001	9.515E-04	TSD On-road
Fraction of fuel mix	2002	1.481E-03	TSD On-road
Fraction of fuel mix	2003	3.373E-04	TSD On-road
Fraction of fuel mix	2004	4.926E-04	TSD On-road
Fraction of fuel mix	2005	8.673E-04	TSD On-road
Fraction of fuel mix	2006	6.550E-03	TSD On-road
Fraction of fuel mix	2007	5.663E-03	TSD On-road
Fraction of fuel mix	2008	4.139E-03	TSD On-road
Fraction of fuel mix	2009	2.682E-03	TSD On-road
Fraction of fuel mix	2010	2.084E-03	TSD On-road
Fraction of fuel mix	2011	6.944E-03	TSD On-road
Fraction of fuel mix	2012	7.865E-03	TSD On-road
Fraction of fuel mix	2013	0.0179	TSD On-road
Fraction of fuel mix	2014	0.0205	TSD On-road
Fuel CO2 emission	2000	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.0738 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.0738 g / btu	USEPA, 2012b
Fuel N2O emission	2000	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2001	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2002	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2003	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2004	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2005	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2006	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2007	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2008	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2009	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2010	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2011	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2012	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2013	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2014	0.332 g / gal	ARB, 2014b
Fuel sales	2000	2,632,760,095 gal	Covert, 2013

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel sales	2001	2,627,365,783 gal	Covert, 2013
Fuel sales	2002	2,700,122,539 gal	Covert, 2013
Fuel sales	2003	2,667,933,637 gal	BOE, 2015
Fuel sales	2004	2,842,332,046 gal	BOE, 2015
Fuel sales	2005	2,963,733,672 gal	BOE, 2015
Fuel sales	2006	2,994,049,134 gal	BOE, 2015
Fuel sales	2007	3,082,740,281 gal	BOE, 2015
Fuel sales	2008	2,827,526,205 gal	BOE, 2015
Fuel sales	2009	2,580,139,949 gal	BOE, 2015
Fuel sales	2010	2,590,655,088 gal	BOE, 2015
Fuel sales	2011	2,622,534,125 gal	BOE, 2015
Fuel sales	2012	2,603,545,631 gal	BOE, 2015
Fuel sales	2013	2,740,305,658 gal	BOE, 2015
Fuel sales	2014	2,776,180,358 gal	BOE, 2015
Heat content	2000	128,000 btu / gal	USEPA, 2012b
Heat content	2001	128,000 btu / gal	USEPA, 2012b
Heat content	2002	128,000 btu / gal	USEPA, 2012b
Heat content	2003	128,000 btu / gal	USEPA, 2012b
Heat content	2004	128,000 btu / gal	USEPA, 2012b
Heat content	2005	128,000 btu / gal	USEPA, 2012b
Heat content	2006	128,000 btu / gal	USEPA, 2012b
Heat content	2007	128,000 btu / gal	USEPA, 2012b
Heat content	2008	128,000 btu / gal	USEPA, 2012b
Heat content	2009	128,000 btu / gal	USEPA, 2012b
Heat content	2010	128,000 btu / gal	USEPA, 2012b
Heat content	2011	128,000 btu / gal	USEPA, 2012b
Heat content	2012	128,000 btu / gal	USEPA, 2012b
Heat content	2013	128,000 btu / gal	USEPA, 2012b
Heat content	2014	128,000 btu / gal	USEPA, 2012b

Activity = Fuel combustion - Distillate

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Distillate	2000	3,978,721 gal	Calculation, see text
Fuel combustion - Distillate	2001	4,418,631 gal	Calculation, see text
Fuel combustion - Distillate	2002	5,049,689 gal	Calculation, see text
Fuel combustion - Distillate	2003	5,933,763 gal	Calculation, see text
Fuel combustion - Distillate	2004	6,846,868 gal	Calculation, see text
Fuel combustion - Distillate	2005	7,734,272 gal	Calculation, see text
Fuel combustion - Distillate	2006	8,452,528 gal	Calculation, see text
Fuel combustion - Distillate	2007	9,233,920 gal	Calculation, see text
Fuel combustion - Distillate	2008	9,139,482 gal	Calculation, see text
Fuel combustion - Distillate	2009	9,100,228 gal	Calculation, see text
Fuel combustion - Distillate	2010	8,964,407 gal	Calculation, see text
Fuel combustion - Distillate	2011	8,668,105 gal	Calculation, see text
Fuel combustion - Distillate	2012	8,331,552 gal	Calculation, see text
Fuel combustion - Distillate	2013	7,841,143 gal	Calculation, see text
Fuel combustion - Distillate	2014	7,782,840 gal	Calculation, see text
EMFAC category fuel combustion	2000	4,023,517 gal	ARB, 2014a
EMFAC category fuel combustion	2001	4,489,374 gal	ARB, 2014a
EMFAC category fuel combustion	2002	5,164,498 gal	ARB, 2014a
EMFAC category fuel combustion	2003	6,188,913 gal	ARB, 2014a
EMFAC category fuel combustion	2004	7,116,361 gal	ARB, 2014a
EMFAC category fuel combustion	2005	8,023,484 gal	ARB, 2014a
EMFAC category fuel combustion	2006	8,927,138 gal	ARB, 2014a
EMFAC category fuel combustion	2007	9,614,971 gal	ARB, 2014a
EMFAC category fuel combustion	2008	9,485,018 gal	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC category fuel combustion	2009	9,488,356 gal	ARB, 2014a
EMFAC category fuel combustion	2010	9,380,745 gal	ARB, 2014a
EMFAC category fuel combustion	2011	9,073,327 gal	ARB, 2014a
EMFAC category fuel combustion	2012	8,823,556 gal	ARB, 2014a
EMFAC category fuel combustion	2013	8,504,167 gal	ARB, 2014a
EMFAC category fuel combustion	2014	8,410,354 gal	ARB, 2014a
EMFAC CH4 emission	2000	420.74 kg	ARB, 2014a
EMFAC CH4 emission	2001	437.26 kg	ARB, 2014a
EMFAC CH4 emission	2002	467.23 kg	ARB, 2014a
EMFAC CH4 emission	2003	516.18 kg	ARB, 2014a
EMFAC CH4 emission	2004	535.1 kg	ARB, 2014a
EMFAC CH4 emission	2005	560.36 kg	ARB, 2014a
EMFAC CH4 emission	2006	586.81 kg	ARB, 2014a
EMFAC CH4 emission	2007	600.18 kg	ARB, 2014a
EMFAC CH4 emission	2008	579.34 kg	ARB, 2014a
EMFAC CH4 emission	2009	586.77 kg	ARB, 2014a
EMFAC CH4 emission	2010	585.57 kg	ARB, 2014a
EMFAC CH4 emission	2011	570.82 kg	ARB, 2014a
EMFAC CH4 emission	2012	559.14 kg	ARB, 2014a
EMFAC CH4 emission	2013	536.68 kg	ARB, 2014a
EMFAC CH4 emission	2014	525.64 kg	ARB, 2014a
EMFAC total fuel combustion	2000	2,660,379,546 gal	ARB, 2014a
EMFAC total fuel combustion	2001	2,666,890,335 gal	ARB, 2014a
EMFAC total fuel combustion	2002	2,757,421,172 gal	ARB, 2014a
EMFAC total fuel combustion	2003	2,781,714,949 gal	ARB, 2014a
EMFAC total fuel combustion	2004	2,952,751,396 gal	ARB, 2014a
EMFAC total fuel combustion	2005	3,071,891,727 gal	ARB, 2014a
EMFAC total fuel combustion	2006	3,141,453,525 gal	ARB, 2014a
EMFAC total fuel combustion	2007	3,191,774,423 gal	ARB, 2014a
EMFAC total fuel combustion	2008	2,922,281,862 gal	ARB, 2014a
EMFAC total fuel combustion	2009	2,682,967,285 gal	ARB, 2014a
EMFAC total fuel combustion	2010	2,703,263,445 gal	ARB, 2014a
EMFAC total fuel combustion	2011	2,724,183,652 gal	ARB, 2014a
EMFAC total fuel combustion	2012	2,725,962,176 gal	ARB, 2014a
EMFAC total fuel combustion	2013	2,771,644,965 gal	ARB, 2014a
EMFAC total fuel combustion	2014	2,825,543,622 gal	ARB, 2014a
Fraction of fuel mix	2000	0.999	TSD On-road
Fraction of fuel mix	2001	0.999	TSD On-road
Fraction of fuel mix	2002	0.999	TSD On-road
Fraction of fuel mix	2003	1	TSD On-road
Fraction of fuel mix	2004	1	TSD On-road
Fraction of fuel mix	2005	0.999	TSD On-road
Fraction of fuel mix	2006	0.993	TSD On-road
Fraction of fuel mix	2007	0.994	TSD On-road
Fraction of fuel mix	2008	0.996	TSD On-road
Fraction of fuel mix	2009	0.997	TSD On-road
Fraction of fuel mix	2010	0.997	TSD On-road
Fraction of fuel mix	2011	0.992	TSD On-road
Fraction of fuel mix	2012	0.989	TSD On-road
Fraction of fuel mix	2013	0.933	TSD On-road
Fraction of fuel mix	2014	0.942	TSD On-road
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2001	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2002	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2003	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2004	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2005	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2006	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2007	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2008	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2009	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2010	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2011	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2012	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2013	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2014	0.332 g / gal	ARB, 2014b
Fuel sales	2000	2,632,760,095 gal	Covert, 2013
Fuel sales	2001	2,627,365,783 gal	Covert, 2013
Fuel sales	2002	2,700,122,539 gal	Covert, 2013
Fuel sales	2003	2,667,933,637 gal	BOE, 2015
Fuel sales	2004	2,842,332,046 gal	BOE, 2015
Fuel sales	2005	2,963,733,672 gal	BOE, 2015
Fuel sales	2006	2,994,049,134 gal	BOE, 2015
Fuel sales	2007	3,082,740,281 gal	BOE, 2015
Fuel sales	2008	2,827,526,205 gal	BOE, 2015
Fuel sales	2009	2,580,139,949 gal	BOE, 2015
Fuel sales	2010	2,590,655,088 gal	BOE, 2015
Fuel sales	2011	2,622,534,125 gal	BOE, 2015
Fuel sales	2012	2,603,545,631 gal	BOE, 2015
Fuel sales	2013	2,740,305,658 gal	BOE, 2015
Fuel sales	2014	2,776,180,358 gal	BOE, 2015
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b
Heat content	2014	138,000 btu / gal	USEPA, 2012b

Activity = Fuel combustion - Ethanol

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Ethanol	2000	400,805 gal	Calculation, see text
Fuel combustion - Ethanol	2001	495,727 gal	Calculation, see text
Fuel combustion - Ethanol	2002	556,030 gal	Calculation, see text
Fuel combustion - Ethanol	2003	3,124,972 gal	Calculation, see text
Fuel combustion - Ethanol	2004	4,468,440 gal	Calculation, see text
Fuel combustion - Ethanol	2005	4,510,048 gal	Calculation, see text
Fuel combustion - Ethanol	2006	4,223,398 gal	Calculation, see text
Fuel combustion - Ethanol	2007	3,971,807 gal	Calculation, see text
Fuel combustion - Ethanol	2008	3,946,876 gal	Calculation, see text
Fuel combustion - Ethanol	2009	3,890,444 gal	Calculation, see text
Fuel combustion - Ethanol	2010	5,737,510 gal	Calculation, see text
Fuel combustion - Ethanol	2011	5,789,132 gal	Calculation, see text
Fuel combustion - Ethanol	2012	5,087,194 gal	Calculation, see text
Fuel combustion - Ethanol	2013	5,551,009 gal	Calculation, see text
Fuel combustion - Ethanol	2014	5,766,276 gal	Calculation, see text
EMFAC category fuel combustion	2000	107,176,830 gal	ARB, 2014a
EMFAC category fuel combustion	2001	98,571,983 gal	ARB, 2014a
EMFAC category fuel combustion	2002	94,511,810 gal	ARB, 2014a
EMFAC category fuel combustion	2003	91,506,308 gal	ARB, 2014a
EMFAC category fuel combustion	2004	87,385,162 gal	ARB, 2014a
EMFAC category fuel combustion	2005	83,032,777 gal	ARB, 2014a
EMFAC category fuel combustion	2006	77,940,212 gal	ARB, 2014a
EMFAC category fuel combustion	2007	73,152,335 gal	ARB, 2014a
EMFAC category fuel combustion	2008	65,932,805 gal	ARB, 2014a
EMFAC category fuel combustion	2009	64,322,733 gal	ARB, 2014a
EMFAC category fuel combustion	2010	61,720,290 gal	ARB, 2014a
EMFAC category fuel combustion	2011	57,307,645 gal	ARB, 2014a
EMFAC category fuel combustion	2012	53,480,337 gal	ARB, 2014a
EMFAC category fuel combustion	2013	50,683,759 gal	ARB, 2014a
EMFAC category fuel combustion	2014	48,992,654 gal	ARB, 2014a
EMFAC CH4 emission	2000	138.35 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	123.16 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	113.49 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	104.46 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	127.37 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	107.61 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	91.17 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	77.43 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	64.33 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2009	59.85 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2010	55.6 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2011	49.11 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2012	42.92 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2013	38.39 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2014	34.79 Mg (tonnes)	ARB, 2014a
EMFAC NOx emission	2000	2.49 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2001	2.17 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2002	1.97 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2003	1.78 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2004	1.53 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2005	1.3 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2006	1.11 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2007	950.76 Mg (tonnes)	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC NOx emission	2008	794.27 Mg (tonnes)	ARB, 2014a
EMFAC NOx emission	2009	738.3 Mg (tonnes)	ARB, 2014a
EMFAC NOx emission	2010	686.26 Mg (tonnes)	ARB, 2014a
EMFAC NOx emission	2011	606.72 Mg (tonnes)	ARB, 2014a
EMFAC NOx emission	2012	533.17 Mg (tonnes)	ARB, 2014a
EMFAC NOx emission	2013	476.22 Mg (tonnes)	ARB, 2014a
EMFAC NOx emission	2014	430.47 Mg (tonnes)	ARB, 2014a
EMFAC total fuel combustion	2000	14,854,521,063 gal	ARB, 2014a
EMFAC total fuel combustion	2001	14,974,619,512 gal	ARB, 2014a
EMFAC total fuel combustion	2002	15,623,665,999 gal	ARB, 2014a
EMFAC total fuel combustion	2003	15,849,299,959 gal	ARB, 2014a
EMFAC total fuel combustion	2004	16,172,230,459 gal	ARB, 2014a
EMFAC total fuel combustion	2005	16,189,185,002 gal	ARB, 2014a
EMFAC total fuel combustion	2006	16,143,192,555 gal	ARB, 2014a
EMFAC total fuel combustion	2007	15,977,349,137 gal	ARB, 2014a
EMFAC total fuel combustion	2008	15,311,004,402 gal	ARB, 2014a
EMFAC total fuel combustion	2009	15,189,522,999 gal	ARB, 2014a
EMFAC total fuel combustion	2010	15,184,580,322 gal	ARB, 2014a
EMFAC total fuel combustion	2011	14,885,198,863 gal	ARB, 2014a
EMFAC total fuel combustion	2012	14,593,712,753 gal	ARB, 2014a
EMFAC total fuel combustion	2013	14,374,193,920 gal	ARB, 2014a
EMFAC total fuel combustion	2014	14,440,544,810 gal	ARB, 2014a
Fraction of fuel mix	2000	3.763E-03	TSD On-road
Fraction of fuel mix	2001	5.063E-03	TSD On-road
Fraction of fuel mix	2002	5.931E-03	TSD On-road
Fraction of fuel mix	2003	0.0346	TSD On-road
Fraction of fuel mix	2004	0.0521	TSD On-road
Fraction of fuel mix	2005	0.0553	TSD On-road
Fraction of fuel mix	2006	0.0554	TSD On-road
Fraction of fuel mix	2007	0.0555	TSD On-road
Fraction of fuel mix	2008	0.0611	TSD On-road
Fraction of fuel mix	2009	0.0621	TSD On-road
Fraction of fuel mix	2010	0.095	TSD On-road
Fraction of fuel mix	2011	0.103	TSD On-road
Fraction of fuel mix	2012	0.0958	TSD On-road
Fraction of fuel mix	2013	0.108	TSD On-road
Fraction of fuel mix	2014	0.116	TSD On-road
Fuel CO2 emission	2000	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2001	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2002	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2003	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2004	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2005	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2006	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2007	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2008	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2009	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2010	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2011	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2012	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2013	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2014	0.0684 g / btu	TSD On-road
Fuel sales	2000	14,760,642,277 gal	Covert, 2013
Fuel sales	2001	14,873,287,328 gal	Covert, 2013
Fuel sales	2002	15,497,850,137 gal	Covert, 2013

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel sales	2003	15,660,106,873 gal	BOE, 2015
Fuel sales	2004	15,882,228,670 gal	BOE, 2015
Fuel sales	2005	15,912,767,049 gal	BOE, 2015
Fuel sales	2006	15,802,491,301 gal	BOE, 2015
Fuel sales	2007	15,644,532,462 gal	BOE, 2015
Fuel sales	2008	15,007,122,838 gal	BOE, 2015
Fuel sales	2009	14,791,632,891 gal	BOE, 2015
Fuel sales	2010	14,851,505,738 gal	BOE, 2015
Fuel sales	2011	14,583,411,578 gal	BOE, 2015
Fuel sales	2012	14,487,897,816 gal	BOE, 2015
Fuel sales	2013	14,516,519,877 gal	BOE, 2015
Fuel sales	2014	14,686,723,856 gal	BOE, 2015
Heat content	2000	84,000 btu / gal	USEPA, 2012b
Heat content	2001	84,000 btu / gal	USEPA, 2012b
Heat content	2002	84,000 btu / gal	USEPA, 2012b
Heat content	2003	84,000 btu / gal	USEPA, 2012b
Heat content	2004	84,000 btu / gal	USEPA, 2012b
Heat content	2005	84,000 btu / gal	USEPA, 2012b
Heat content	2006	84,000 btu / gal	USEPA, 2012b
Heat content	2007	84,000 btu / gal	USEPA, 2012b
Heat content	2008	84,000 btu / gal	USEPA, 2012b
Heat content	2009	84,000 btu / gal	USEPA, 2012b
Heat content	2010	84,000 btu / gal	USEPA, 2012b
Heat content	2011	84,000 btu / gal	USEPA, 2012b
Heat content	2012	84,000 btu / gal	USEPA, 2012b
Heat content	2013	84,000 btu / gal	USEPA, 2012b
Heat content	2014	84,000 btu / gal	USEPA, 2012b
N2O to NOx ratio	2000	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2001	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2002	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2003	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2004	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2005	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2006	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2007	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2008	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2009	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2010	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2011	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2012	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2013	0.0416 g / g	ARB, 2014a
N2O to NOx ratio	2014	0.0416 g / g	ARB, 2014a

Activity = Fuel combustion - Gasoline

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Gasoline	2000	106,098,680 gal	Calculation, see text
Fuel combustion - Gasoline	2001	97,409,226 gal	Calculation, see text
Fuel combustion - Gasoline	2002	93,194,685 gal	Calculation, see text
Fuel combustion - Gasoline	2003	87,289,025 gal	Calculation, see text
Fuel combustion - Gasoline	2004	81,349,724 gal	Calculation, see text
Fuel combustion - Gasoline	2005	77,105,008 gal	Calculation, see text
Fuel combustion - Gasoline	2006	72,071,890 gal	Calculation, see text
Fuel combustion - Gasoline	2007	67,656,726 gal	Calculation, see text
Fuel combustion - Gasoline	2008	60,677,342 gal	Calculation, see text
Fuel combustion - Gasoline	2009	58,747,353 gal	Calculation, see text
Fuel combustion - Gasoline	2010	54,628,942 gal	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel combustion - Gasoline	2011	50,356,640 gal	Calculation, see text
Fuel combustion - Gasoline	2012	48,005,372 gal	Calculation, see text
Fuel combustion - Gasoline	2013	45,634,596 gal	Calculation, see text
Fuel combustion - Gasoline	2014	44,061,594 gal	Calculation, see text
EMFAC category fuel combustion	2000	107,176,830 gal	ARB, 2014a
EMFAC category fuel combustion	2001	98,571,983 gal	ARB, 2014a
EMFAC category fuel combustion	2002	94,511,810 gal	ARB, 2014a
EMFAC category fuel combustion	2003	91,506,308 gal	ARB, 2014a
EMFAC category fuel combustion	2004	87,385,162 gal	ARB, 2014a
EMFAC category fuel combustion	2005	83,032,777 gal	ARB, 2014a
EMFAC category fuel combustion	2006	77,940,212 gal	ARB, 2014a
EMFAC category fuel combustion	2007	73,152,335 gal	ARB, 2014a
EMFAC category fuel combustion	2008	65,932,805 gal	ARB, 2014a
EMFAC category fuel combustion	2009	64,322,733 gal	ARB, 2014a
EMFAC category fuel combustion	2010	61,720,290 gal	ARB, 2014a
EMFAC category fuel combustion	2011	57,307,645 gal	ARB, 2014a
EMFAC category fuel combustion	2012	53,480,337 gal	ARB, 2014a
EMFAC category fuel combustion	2013	50,683,759 gal	ARB, 2014a
EMFAC category fuel combustion	2014	48,992,654 gal	ARB, 2014a
EMFAC CH4 emission	2000	138.35 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	123.16 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	113.49 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	104.46 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	127.37 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	107.61 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	91.17 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	77.43 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	64.33 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2009	59.85 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2010	55.6 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2011	49.11 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2012	42.92 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2013	38.39 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2014	34.79 Mg (tonnes)	ARB, 2014a
EMFAC NOx emission	2000	2.49 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2001	2.17 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2002	1.97 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2003	1.78 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2004	1.53 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2005	1.3 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2006	1.11 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2007	950.76 Mg (tonnes)	ARB, 2014a
EMFAC NOx emission	2008	794.27 Mg (tonnes)	ARB, 2014a
EMFAC NOx emission	2009	738.3 Mg (tonnes)	ARB, 2014a
EMFAC NOx emission	2010	686.26 Mg (tonnes)	ARB, 2014a
EMFAC NOx emission	2011	606.72 Mg (tonnes)	ARB, 2014a
EMFAC NOx emission	2012	533.17 Mg (tonnes)	ARB, 2014a
EMFAC NOx emission	2013	476.22 Mg (tonnes)	ARB, 2014a
EMFAC NOx emission	2014	430.47 Mg (tonnes)	ARB, 2014a
EMFAC total fuel combustion	2000	14,854,521,063 gal	ARB, 2014a
EMFAC total fuel combustion	2001	14,974,619,512 gal	ARB, 2014a
EMFAC total fuel combustion	2002	15,623,665,999 gal	ARB, 2014a
EMFAC total fuel combustion	2003	15,849,299,959 gal	ARB, 2014a
EMFAC total fuel combustion	2004	16,172,230,459 gal	ARB, 2014a
EMFAC total fuel combustion	2005	16,189,185,002 gal	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC total fuel combustion	2006	16,143,192,555 gal	ARB, 2014a
EMFAC total fuel combustion	2007	15,977,349,137 gal	ARB, 2014a
EMFAC total fuel combustion	2008	15,311,004,402 gal	ARB, 2014a
EMFAC total fuel combustion	2009	15,189,522,999 gal	ARB, 2014a
EMFAC total fuel combustion	2010	15,184,580,322 gal	ARB, 2014a
EMFAC total fuel combustion	2011	14,885,198,863 gal	ARB, 2014a
EMFAC total fuel combustion	2012	14,593,712,753 gal	ARB, 2014a
EMFAC total fuel combustion	2013	14,374,193,920 gal	ARB, 2014a
EMFAC total fuel combustion	2014	14,440,544,810 gal	ARB, 2014a
Fraction of fuel mix	2000	0.996	TSD On-road
Fraction of fuel mix	2001	0.995	TSD On-road
Fraction of fuel mix	2002	0.994	TSD On-road
Fraction of fuel mix	2003	0.965	TSD On-road
Fraction of fuel mix	2004	0.948	TSD On-road
Fraction of fuel mix	2005	0.945	TSD On-road
Fraction of fuel mix	2006	0.945	TSD On-road
Fraction of fuel mix	2007	0.945	TSD On-road
Fraction of fuel mix	2008	0.939	TSD On-road
Fraction of fuel mix	2009	0.938	TSD On-road
Fraction of fuel mix	2010	0.905	TSD On-road
Fraction of fuel mix	2011	0.897	TSD On-road
Fraction of fuel mix	2012	0.904	TSD On-road
Fraction of fuel mix	2013	0.892	TSD On-road
Fraction of fuel mix	2014	0.884	TSD On-road
Fuel CO2 emission	2000	0.0709 g / btu	TSD On-road
Fuel CO2 emission	2001	0.0709 g / btu	TSD On-road
Fuel CO2 emission	2002	0.0711 g / btu	TSD On-road
Fuel CO2 emission	2003	0.071 g / btu	TSD On-road
Fuel CO2 emission	2004	0.0711 g / btu	TSD On-road
Fuel CO2 emission	2005	0.071 g / btu	TSD On-road
Fuel CO2 emission	2006	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2007	0.0717 g / btu	TSD On-road
Fuel CO2 emission	2008	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2009	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2010	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2011	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2012	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2013	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2014	0.0713 g / btu	TSD On-road
Fuel sales	2000	14,760,642,277 gal	Covert, 2013
Fuel sales	2001	14,873,287,328 gal	Covert, 2013
Fuel sales	2002	15,497,850,137 gal	Covert, 2013
Fuel sales	2003	15,660,106,873 gal	BOE, 2015
Fuel sales	2004	15,882,228,670 gal	BOE, 2015
Fuel sales	2005	15,912,767,049 gal	BOE, 2015
Fuel sales	2006	15,802,491,301 gal	BOE, 2015
Fuel sales	2007	15,644,532,462 gal	BOE, 2015
Fuel sales	2008	15,007,122,838 gal	BOE, 2015
Fuel sales	2009	14,791,632,891 gal	BOE, 2015
Fuel sales	2010	14,851,505,738 gal	BOE, 2015
Fuel sales	2011	14,583,411,578 gal	BOE, 2015
Fuel sales	2012	14,487,897,816 gal	BOE, 2015
Fuel sales	2013	14,516,519,877 gal	BOE, 2015
Fuel sales	2014	14,686,723,856 gal	BOE, 2015
Heat content	2000	125,000 btu / gal	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Heat content	2001	125,000 btu / gal	USEPA, 2012b
Heat content	2002	125,000 btu / gal	USEPA, 2012b
Heat content	2003	125,000 btu / gal	USEPA, 2012b
Heat content	2004	125,000 btu / gal	USEPA, 2012b
Heat content	2005	125,000 btu / gal	USEPA, 2012b
Heat content	2006	125,000 btu / gal	USEPA, 2012b
Heat content	2007	125,000 btu / gal	USEPA, 2012b
Heat content	2008	125,000 btu / gal	USEPA, 2012b
Heat content	2009	125,000 btu / gal	USEPA, 2012b
Heat content	2010	125,000 btu / gal	USEPA, 2012b
Heat content	2011	125,000 btu / gal	USEPA, 2012b
Heat content	2012	125,000 btu / gal	USEPA, 2012b
Heat content	2013	125,000 btu / gal	USEPA, 2012b
Heat content	2014	125,000 btu / gal	USEPA, 2012b
N2O to NOx ratio	2000	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2001	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2002	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2003	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2004	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2005	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2006	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2007	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2008	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2009	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2010	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2011	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2012	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2013	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2014	0.0416 g / g	ARB, 2014b

Activity = Fuel combustion - Renewable Diesel

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Renewable Diesel	2000	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2001	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2002	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2003	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2004	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2005	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2006	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2007	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2008	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2009	0 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2010	6,837 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2011	6,007 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2012	29,475 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2013	416,616 gal	Calculation, see text
Fuel combustion - Renewable Diesel	2014	311,190 gal	Calculation, see text
EMFAC category fuel combustion	2000	4,023,517 gal	ARB, 2014a
EMFAC category fuel combustion	2001	4,489,374 gal	ARB, 2014a
EMFAC category fuel combustion	2002	5,164,498 gal	ARB, 2014a
EMFAC category fuel combustion	2003	6,188,913 gal	ARB, 2014a
EMFAC category fuel combustion	2004	7,116,361 gal	ARB, 2014a
EMFAC category fuel combustion	2005	8,023,484 gal	ARB, 2014a
EMFAC category fuel combustion	2006	8,927,138 gal	ARB, 2014a
EMFAC category fuel combustion	2007	9,614,971 gal	ARB, 2014a
EMFAC category fuel combustion	2008	9,485,018 gal	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC category fuel combustion	2009	9,488,356 gal	ARB, 2014a
EMFAC category fuel combustion	2010	9,380,745 gal	ARB, 2014a
EMFAC category fuel combustion	2011	9,073,327 gal	ARB, 2014a
EMFAC category fuel combustion	2012	8,823,556 gal	ARB, 2014a
EMFAC category fuel combustion	2013	8,504,167 gal	ARB, 2014a
EMFAC category fuel combustion	2014	8,410,354 gal	ARB, 2014a
EMFAC CH4 emission	2000	420.74 kg	ARB, 2014a
EMFAC CH4 emission	2001	437.26 kg	ARB, 2014a
EMFAC CH4 emission	2002	467.23 kg	ARB, 2014a
EMFAC CH4 emission	2003	516.18 kg	ARB, 2014a
EMFAC CH4 emission	2004	535.1 kg	ARB, 2014a
EMFAC CH4 emission	2005	560.36 kg	ARB, 2014a
EMFAC CH4 emission	2006	586.81 kg	ARB, 2014a
EMFAC CH4 emission	2007	600.18 kg	ARB, 2014a
EMFAC CH4 emission	2008	579.34 kg	ARB, 2014a
EMFAC CH4 emission	2009	586.77 kg	ARB, 2014a
EMFAC CH4 emission	2010	585.57 kg	ARB, 2014a
EMFAC CH4 emission	2011	570.82 kg	ARB, 2014a
EMFAC CH4 emission	2012	559.14 kg	ARB, 2014a
EMFAC CH4 emission	2013	536.68 kg	ARB, 2014a
EMFAC CH4 emission	2014	525.64 kg	ARB, 2014a
EMFAC total fuel combustion	2000	2,660,379,546 gal	ARB, 2014a
EMFAC total fuel combustion	2001	2,666,890,335 gal	ARB, 2014a
EMFAC total fuel combustion	2002	2,757,421,172 gal	ARB, 2014a
EMFAC total fuel combustion	2003	2,781,714,949 gal	ARB, 2014a
EMFAC total fuel combustion	2004	2,952,751,396 gal	ARB, 2014a
EMFAC total fuel combustion	2005	3,071,891,727 gal	ARB, 2014a
EMFAC total fuel combustion	2006	3,141,453,525 gal	ARB, 2014a
EMFAC total fuel combustion	2007	3,191,774,423 gal	ARB, 2014a
EMFAC total fuel combustion	2008	2,922,281,862 gal	ARB, 2014a
EMFAC total fuel combustion	2009	2,682,967,285 gal	ARB, 2014a
EMFAC total fuel combustion	2010	2,703,263,445 gal	ARB, 2014a
EMFAC total fuel combustion	2011	2,724,183,652 gal	ARB, 2014a
EMFAC total fuel combustion	2012	2,725,962,176 gal	ARB, 2014a
EMFAC total fuel combustion	2013	2,771,644,965 gal	ARB, 2014a
EMFAC total fuel combustion	2014	2,825,543,622 gal	ARB, 2014a
Fraction of fuel mix	2000	0	TSD On-road
Fraction of fuel mix	2001	0	TSD On-road
Fraction of fuel mix	2002	0	TSD On-road
Fraction of fuel mix	2003	0	TSD On-road
Fraction of fuel mix	2004	0	TSD On-road
Fraction of fuel mix	2005	0	TSD On-road
Fraction of fuel mix	2006	0	TSD On-road
Fraction of fuel mix	2007	0	TSD On-road
Fraction of fuel mix	2008	0	TSD On-road
Fraction of fuel mix	2009	0	TSD On-road
Fraction of fuel mix	2010	7.605E-04	TSD On-road
Fraction of fuel mix	2011	6.877E-04	TSD On-road
Fraction of fuel mix	2012	3.498E-03	TSD On-road
Fraction of fuel mix	2013	0.0495	TSD On-road
Fraction of fuel mix	2014	0.0377	TSD On-road
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2001	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2002	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2003	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2004	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2005	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2006	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2007	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2008	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2009	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2010	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2011	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2012	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2013	0.332 g / gal	ARB, 2014b
Fuel N2O emission	2014	0.332 g / gal	ARB, 2014b
Fuel sales	2000	2,632,760,095 gal	Covert, 2013
Fuel sales	2001	2,627,365,783 gal	Covert, 2013
Fuel sales	2002	2,700,122,539 gal	Covert, 2013
Fuel sales	2003	2,667,933,637 gal	BOE, 2015
Fuel sales	2004	2,842,332,046 gal	BOE, 2015
Fuel sales	2005	2,963,733,672 gal	BOE, 2015
Fuel sales	2006	2,994,049,134 gal	BOE, 2015
Fuel sales	2007	3,082,740,281 gal	BOE, 2015
Fuel sales	2008	2,827,526,205 gal	BOE, 2015
Fuel sales	2009	2,580,139,949 gal	BOE, 2015
Fuel sales	2010	2,590,655,088 gal	BOE, 2015
Fuel sales	2011	2,622,534,125 gal	BOE, 2015
Fuel sales	2012	2,603,545,631 gal	BOE, 2015
Fuel sales	2013	2,740,305,658 gal	BOE, 2015
Fuel sales	2014	2,776,180,358 gal	BOE, 2015
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b
Heat content	2014	138,000 btu / gal	USEPA, 2012b

IPCC category = 1A3biv — Fuel Combustion Activities - Transport - Road Transportation - Motorcycles**► Sector = On Road : Light-duty Vehicles : Motorcycles****Activity = Fuel combustion - Ethanol**

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Ethanol	2000	89,006 gal	Calculation, see text
Fuel combustion - Ethanol	2001	155,271 gal	Calculation, see text
Fuel combustion - Ethanol	2002	207,062 gal	Calculation, see text
Fuel combustion - Ethanol	2003	1,301,688 gal	Calculation, see text
Fuel combustion - Ethanol	2004	2,047,768 gal	Calculation, see text
Fuel combustion - Ethanol	2005	2,380,221 gal	Calculation, see text
Fuel combustion - Ethanol	2006	2,635,959 gal	Calculation, see text
Fuel combustion - Ethanol	2007	2,792,307 gal	Calculation, see text
Fuel combustion - Ethanol	2008	3,235,314 gal	Calculation, see text
Fuel combustion - Ethanol	2009	3,250,232 gal	Calculation, see text
Fuel combustion - Ethanol	2010	4,883,569 gal	Calculation, see text
Fuel combustion - Ethanol	2011	5,180,455 gal	Calculation, see text
Fuel combustion - Ethanol	2012	4,787,650 gal	Calculation, see text
Fuel combustion - Ethanol	2013	5,410,719 gal	Calculation, see text
Fuel combustion - Ethanol	2014	5,862,159 gal	Calculation, see text
EMFAC category fuel combustion	2000	23,800,427 gal	ARB, 2014a
EMFAC category fuel combustion	2001	30,874,638 gal	ARB, 2014a
EMFAC category fuel combustion	2002	35,195,554 gal	ARB, 2014a
EMFAC category fuel combustion	2003	38,116,400 gal	ARB, 2014a
EMFAC category fuel combustion	2004	40,046,323 gal	ARB, 2014a
EMFAC category fuel combustion	2005	43,821,343 gal	ARB, 2014a
EMFAC category fuel combustion	2006	48,645,007 gal	ARB, 2014a
EMFAC category fuel combustion	2007	51,428,411 gal	ARB, 2014a
EMFAC category fuel combustion	2008	54,046,117 gal	ARB, 2014a
EMFAC category fuel combustion	2009	53,737,785 gal	ARB, 2014a
EMFAC category fuel combustion	2010	52,534,160 gal	ARB, 2014a
EMFAC category fuel combustion	2011	51,282,247 gal	ARB, 2014a
EMFAC category fuel combustion	2012	50,331,309 gal	ARB, 2014a
EMFAC category fuel combustion	2013	49,402,836 gal	ARB, 2014a
EMFAC category fuel combustion	2014	49,807,318 gal	ARB, 2014a
EMFAC CH4 emission	2000	264.72 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	348.03 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	399.19 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	436.17 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	533.39 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	575.76 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	633.76 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	664.96 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	746.92 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2009	763.02 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2010	765.53 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2011	768.45 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2012	776.32 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2013	784.38 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2014	811.73 Mg (tonnes)	ARB, 2014a
EMFAC NOx emission	2000	1.19 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2001	1.55 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2002	1.77 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2003	1.92 Gg (thousand tonnes)	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC NOx emission	2004	1.97 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2005	2.15 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2006	2.37 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2007	2.5 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2008	2.6 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2009	2.54 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2010	2.48 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2011	2.41 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2012	2.35 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2013	2.29 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2014	2.3 Gg (thousand tonnes)	ARB, 2014a
EMFAC total fuel combustion	2000	14,854,521,063 gal	ARB, 2014a
EMFAC total fuel combustion	2001	14,974,619,512 gal	ARB, 2014a
EMFAC total fuel combustion	2002	15,623,665,999 gal	ARB, 2014a
EMFAC total fuel combustion	2003	15,849,299,959 gal	ARB, 2014a
EMFAC total fuel combustion	2004	16,172,230,459 gal	ARB, 2014a
EMFAC total fuel combustion	2005	16,189,185,002 gal	ARB, 2014a
EMFAC total fuel combustion	2006	16,143,192,555 gal	ARB, 2014a
EMFAC total fuel combustion	2007	15,977,349,137 gal	ARB, 2014a
EMFAC total fuel combustion	2008	15,311,004,402 gal	ARB, 2014a
EMFAC total fuel combustion	2009	15,189,522,999 gal	ARB, 2014a
EMFAC total fuel combustion	2010	15,184,580,322 gal	ARB, 2014a
EMFAC total fuel combustion	2011	14,885,198,863 gal	ARB, 2014a
EMFAC total fuel combustion	2012	14,593,712,753 gal	ARB, 2014a
EMFAC total fuel combustion	2013	14,374,193,920 gal	ARB, 2014a
EMFAC total fuel combustion	2014	14,440,544,810 gal	ARB, 2014a
Fraction of fuel mix	2000	3.763E-03	TSD On-road
Fraction of fuel mix	2001	5.063E-03	TSD On-road
Fraction of fuel mix	2002	5.931E-03	TSD On-road
Fraction of fuel mix	2003	0.0346	TSD On-road
Fraction of fuel mix	2004	0.0521	TSD On-road
Fraction of fuel mix	2005	0.0553	TSD On-road
Fraction of fuel mix	2006	0.0554	TSD On-road
Fraction of fuel mix	2007	0.0555	TSD On-road
Fraction of fuel mix	2008	0.0611	TSD On-road
Fraction of fuel mix	2009	0.0621	TSD On-road
Fraction of fuel mix	2010	0.095	TSD On-road
Fraction of fuel mix	2011	0.103	TSD On-road
Fraction of fuel mix	2012	0.0958	TSD On-road
Fraction of fuel mix	2013	0.108	TSD On-road
Fraction of fuel mix	2014	0.116	TSD On-road
Fuel CO2 emission	2000	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2001	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2002	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2003	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2004	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2005	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2006	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2007	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2008	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2009	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2010	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2011	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2012	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2013	0.0684 g / btu	TSD On-road
Fuel CO2 emission	2014	0.0684 g / btu	TSD On-road

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel sales	2000	14,760,642,277 gal	Covert, 2013
Fuel sales	2001	14,873,287,328 gal	Covert, 2013
Fuel sales	2002	15,497,850,137 gal	Covert, 2013
Fuel sales	2003	15,660,106,873 gal	BOE, 2015
Fuel sales	2004	15,882,228,670 gal	BOE, 2015
Fuel sales	2005	15,912,767,049 gal	BOE, 2015
Fuel sales	2006	15,802,491,301 gal	BOE, 2015
Fuel sales	2007	15,644,532,462 gal	BOE, 2015
Fuel sales	2008	15,007,122,838 gal	BOE, 2015
Fuel sales	2009	14,791,632,891 gal	BOE, 2015
Fuel sales	2010	14,851,505,738 gal	BOE, 2015
Fuel sales	2011	14,583,411,578 gal	BOE, 2015
Fuel sales	2012	14,487,897,816 gal	BOE, 2015
Fuel sales	2013	14,516,519,877 gal	BOE, 2015
Fuel sales	2014	14,686,723,856 gal	BOE, 2015
Heat content	2000	84,000 btu / gal	USEPA, 2012b
Heat content	2001	84,000 btu / gal	USEPA, 2012b
Heat content	2002	84,000 btu / gal	USEPA, 2012b
Heat content	2003	84,000 btu / gal	USEPA, 2012b
Heat content	2004	84,000 btu / gal	USEPA, 2012b
Heat content	2005	84,000 btu / gal	USEPA, 2012b
Heat content	2006	84,000 btu / gal	USEPA, 2012b
Heat content	2007	84,000 btu / gal	USEPA, 2012b
Heat content	2008	84,000 btu / gal	USEPA, 2012b
Heat content	2009	84,000 btu / gal	USEPA, 2012b
Heat content	2010	84,000 btu / gal	USEPA, 2012b
Heat content	2011	84,000 btu / gal	USEPA, 2012b
Heat content	2012	84,000 btu / gal	USEPA, 2012b
Heat content	2013	84,000 btu / gal	USEPA, 2012b
Heat content	2014	84,000 btu / gal	USEPA, 2012b
N2O to NOx ratio	2000	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2001	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2002	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2003	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2004	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2005	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2006	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2007	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2008	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2009	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2010	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2011	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2012	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2013	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2014	0.0416 g / g	ARB, 2014b

Activity = Fuel combustion - Gasoline

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Gasoline	2000	23,561,006 gal	Calculation, see text
Fuel combustion - Gasoline	2001	30,510,440 gal	Calculation, see text
Fuel combustion - Gasoline	2002	34,705,066 gal	Calculation, see text
Fuel combustion - Gasoline	2003	36,359,716 gal	Calculation, see text
Fuel combustion - Gasoline	2004	37,280,440 gal	Calculation, see text
Fuel combustion - Gasoline	2005	40,692,907 gal	Calculation, see text
Fuel combustion - Gasoline	2006	44,982,397 gal	Calculation, see text
Fuel combustion - Gasoline	2007	47,564,824 gal	Calculation, see text

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel combustion - Gasoline	2008	49,738,135 gal	Calculation, see text
Fuel combustion - Gasoline	2009	49,079,890 gal	Calculation, see text
Fuel combustion - Gasoline	2010	46,498,252 gal	Calculation, see text
Fuel combustion - Gasoline	2011	45,062,079 gal	Calculation, see text
Fuel combustion - Gasoline	2012	45,178,721 gal	Calculation, see text
Fuel combustion - Gasoline	2013	44,481,279 gal	Calculation, see text
Fuel combustion - Gasoline	2014	44,794,262 gal	Calculation, see text
EMFAC category fuel combustion	2000	23,800,427 gal	ARB, 2014a
EMFAC category fuel combustion	2001	30,874,638 gal	ARB, 2014a
EMFAC category fuel combustion	2002	35,195,554 gal	ARB, 2014a
EMFAC category fuel combustion	2003	38,116,400 gal	ARB, 2014a
EMFAC category fuel combustion	2004	40,046,323 gal	ARB, 2014a
EMFAC category fuel combustion	2005	43,821,343 gal	ARB, 2014a
EMFAC category fuel combustion	2006	48,645,007 gal	ARB, 2014a
EMFAC category fuel combustion	2007	51,428,411 gal	ARB, 2014a
EMFAC category fuel combustion	2008	54,046,117 gal	ARB, 2014a
EMFAC category fuel combustion	2009	53,737,785 gal	ARB, 2014a
EMFAC category fuel combustion	2010	52,534,160 gal	ARB, 2014a
EMFAC category fuel combustion	2011	51,282,247 gal	ARB, 2014a
EMFAC category fuel combustion	2012	50,331,309 gal	ARB, 2014a
EMFAC category fuel combustion	2013	49,402,836 gal	ARB, 2014a
EMFAC category fuel combustion	2014	49,807,318 gal	ARB, 2014a
EMFAC CH4 emission	2000	264.72 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2001	348.03 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2002	399.19 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2003	436.17 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2004	533.39 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2005	575.76 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2006	633.76 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2007	664.96 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2008	746.92 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2009	763.02 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2010	765.53 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2011	768.45 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2012	776.32 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2013	784.38 Mg (tonnes)	ARB, 2014a
EMFAC CH4 emission	2014	811.73 Mg (tonnes)	ARB, 2014a
EMFAC NOx emission	2000	1.19 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2001	1.55 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2002	1.77 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2003	1.92 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2004	1.97 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2005	2.15 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2006	2.37 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2007	2.5 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2008	2.6 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2009	2.54 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2010	2.48 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2011	2.41 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2012	2.35 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2013	2.29 Gg (thousand tonnes)	ARB, 2014a
EMFAC NOx emission	2014	2.3 Gg (thousand tonnes)	ARB, 2014a
EMFAC total fuel combustion	2000	14,854,521,063 gal	ARB, 2014a
EMFAC total fuel combustion	2001	14,974,619,512 gal	ARB, 2014a
EMFAC total fuel combustion	2002	15,623,665,999 gal	ARB, 2014a

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

EMFAC total fuel combustion	2003	15,849,299,959 gal	ARB, 2014a
EMFAC total fuel combustion	2004	16,172,230,459 gal	ARB, 2014a
EMFAC total fuel combustion	2005	16,189,185,002 gal	ARB, 2014a
EMFAC total fuel combustion	2006	16,143,192,555 gal	ARB, 2014a
EMFAC total fuel combustion	2007	15,977,349,137 gal	ARB, 2014a
EMFAC total fuel combustion	2008	15,311,004,402 gal	ARB, 2014a
EMFAC total fuel combustion	2009	15,189,522,999 gal	ARB, 2014a
EMFAC total fuel combustion	2010	15,184,580,322 gal	ARB, 2014a
EMFAC total fuel combustion	2011	14,885,198,863 gal	ARB, 2014a
EMFAC total fuel combustion	2012	14,593,712,753 gal	ARB, 2014a
EMFAC total fuel combustion	2013	14,374,193,920 gal	ARB, 2014a
EMFAC total fuel combustion	2014	14,440,544,810 gal	ARB, 2014a
Fraction of fuel mix	2000	0.996	TSD On-road
Fraction of fuel mix	2001	0.995	TSD On-road
Fraction of fuel mix	2002	0.994	TSD On-road
Fraction of fuel mix	2003	0.965	TSD On-road
Fraction of fuel mix	2004	0.948	TSD On-road
Fraction of fuel mix	2005	0.945	TSD On-road
Fraction of fuel mix	2006	0.945	TSD On-road
Fraction of fuel mix	2007	0.945	TSD On-road
Fraction of fuel mix	2008	0.939	TSD On-road
Fraction of fuel mix	2009	0.938	TSD On-road
Fraction of fuel mix	2010	0.905	TSD On-road
Fraction of fuel mix	2011	0.897	TSD On-road
Fraction of fuel mix	2012	0.904	TSD On-road
Fraction of fuel mix	2013	0.892	TSD On-road
Fraction of fuel mix	2014	0.884	TSD On-road
Fuel CO2 emission	2000	0.0709 g / btu	TSD On-road
Fuel CO2 emission	2001	0.0709 g / btu	TSD On-road
Fuel CO2 emission	2002	0.0711 g / btu	TSD On-road
Fuel CO2 emission	2003	0.071 g / btu	TSD On-road
Fuel CO2 emission	2004	0.0711 g / btu	TSD On-road
Fuel CO2 emission	2005	0.071 g / btu	TSD On-road
Fuel CO2 emission	2006	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2007	0.0717 g / btu	TSD On-road
Fuel CO2 emission	2008	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2009	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2010	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2011	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2012	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2013	0.0713 g / btu	TSD On-road
Fuel CO2 emission	2014	0.0713 g / btu	TSD On-road
Fuel sales	2000	14,760,642,277 gal	Covert, 2013
Fuel sales	2001	14,873,287,328 gal	Covert, 2013
Fuel sales	2002	15,497,850,137 gal	Covert, 2013
Fuel sales	2003	15,660,106,873 gal	BOE, 2015
Fuel sales	2004	15,882,228,670 gal	BOE, 2015
Fuel sales	2005	15,912,767,049 gal	BOE, 2015
Fuel sales	2006	15,802,491,301 gal	BOE, 2015
Fuel sales	2007	15,644,532,462 gal	BOE, 2015
Fuel sales	2008	15,007,122,838 gal	BOE, 2015
Fuel sales	2009	14,791,632,891 gal	BOE, 2015
Fuel sales	2010	14,851,505,738 gal	BOE, 2015
Fuel sales	2011	14,583,411,578 gal	BOE, 2015
Fuel sales	2012	14,487,897,816 gal	BOE, 2015
Fuel sales	2013	14,516,519,877 gal	BOE, 2015

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel sales	2014	14,686,723,856 gal	BOE, 2015
Heat content	2000	125,000 btu / gal	USEPA, 2012b
Heat content	2001	125,000 btu / gal	USEPA, 2012b
Heat content	2002	125,000 btu / gal	USEPA, 2012b
Heat content	2003	125,000 btu / gal	USEPA, 2012b
Heat content	2004	125,000 btu / gal	USEPA, 2012b
Heat content	2005	125,000 btu / gal	USEPA, 2012b
Heat content	2006	125,000 btu / gal	USEPA, 2012b
Heat content	2007	125,000 btu / gal	USEPA, 2012b
Heat content	2008	125,000 btu / gal	USEPA, 2012b
Heat content	2009	125,000 btu / gal	USEPA, 2012b
Heat content	2010	125,000 btu / gal	USEPA, 2012b
Heat content	2011	125,000 btu / gal	USEPA, 2012b
Heat content	2012	125,000 btu / gal	USEPA, 2012b
Heat content	2013	125,000 btu / gal	USEPA, 2012b
Heat content	2014	125,000 btu / gal	USEPA, 2012b
N2O to NOx ratio	2000	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2001	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2002	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2003	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2004	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2005	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2006	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2007	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2008	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2009	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2010	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2011	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2012	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2013	0.0416 g / g	ARB, 2014b
N2O to NOx ratio	2014	0.0416 g / g	ARB, 2014b

IPCC category = 1A3c — Fuel Combustion Activities - Transport - Railways

► Sector = Rail

Activity = Fuel combustion - Distillate

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Distillate	2000	183,196,000 gal	EIA, 2013b
Fuel combustion - Distillate	2001	184,232,000 gal	EIA, 2013b
Fuel combustion - Distillate	2002	243,861,000 gal	EIA, 2015
Fuel combustion - Distillate	2003	279,486,000 gal	EIA, 2013b
Fuel combustion - Distillate	2004	284,154,000 gal	EIA, 2015
Fuel combustion - Distillate	2005	326,174,000 gal	EIA, 2013b
Fuel combustion - Distillate	2006	344,459,000 gal	EIA, 2015
Fuel combustion - Distillate	2007	309,249,000 gal	EIA, 2015
Fuel combustion - Distillate	2008	232,151,000 gal	EIA, 2013b
Fuel combustion - Distillate	2009	190,082,000 gal	EIA, 2015
Fuel combustion - Distillate	2010	225,123,000 gal	EIA, 2015
Fuel combustion - Distillate	2011	257,297,000 gal	EIA, 2015
Fuel combustion - Distillate	2012	241,359,000 gal	EIA, 2015
Fuel combustion - Distillate	2013	233,978,000 gal	EIA, 2013b
Fuel combustion - Distillate	2014	268,489,000 gal	EIA, 2013b
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b

Heat content	2014	138,000 btu / gal	USEPA, 2012b
IPCC category = 1A3di — Fuel Combustion Activities - Transport - Water-borne Navigation - International Water-borne Navigation (International Bunkers)			
► Sector = Water-borne : International : Port activities			
Activity = Fuel combustion - Distillate			
- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Distillate	2000	4,384,636 gal	ARB, 2011b
Fuel combustion - Distillate	2001	4,601,401 gal	ARB, 2011b
Fuel combustion - Distillate	2002	4,826,868 gal	ARB, 2011b
Fuel combustion - Distillate	2003	5,061,701 gal	ARB, 2011b
Fuel combustion - Distillate	2004	5,306,635 gal	ARB, 2011b
Fuel combustion - Distillate	2005	5,562,473 gal	ARB, 2011b
Fuel combustion - Distillate	2006	5,774,308 gal	ARB, 2011b
Fuel combustion - Distillate	2007	6,012,507 gal	ARB, 2011b
Fuel combustion - Distillate	2008	5,576,219 gal	ARB, 2011b
Fuel combustion - Distillate	2009	4,761,549 gal	ARB, 2011b
Fuel combustion - Distillate	2010	5,180,163 gal	ARB, 2011b
Fuel combustion - Distillate	2011	5,139,733 gal	ARB, 2011b
Fuel combustion - Distillate	2012	5,272,196 gal	ARB, 2011b
Fuel combustion - Distillate	2013	5,800,498 gal	ARB, 2011b
Fuel combustion - Distillate	2014	5,916,508 gal	ARB, 2011b
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b
Heat content	2014	138,000 btu / gal	USEPA, 2012b

Activity = Fuel combustion - Residual fuel oil

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Residual fuel oil	2000	32,430,655 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2001	34,137,581 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2002	35,912,899 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2003	37,762,579 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2004	39,693,267 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2005	41,712,368 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2006	42,861,739 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2007	46,643,237 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2008	44,008,023 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2009	38,032,807 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2010	36,585,509 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2011	37,391,345 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2012	41,315,034 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2013	42,323,591 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2014	43,170,063 gal	ARB, 2011b
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.0751 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	150,000 btu / gal	USEPA, 2012b
Heat content	2001	150,000 btu / gal	USEPA, 2012b
Heat content	2002	150,000 btu / gal	USEPA, 2012b
Heat content	2003	150,000 btu / gal	USEPA, 2012b
Heat content	2004	150,000 btu / gal	USEPA, 2012b
Heat content	2005	150,000 btu / gal	USEPA, 2012b
Heat content	2006	150,000 btu / gal	USEPA, 2012b
Heat content	2007	150,000 btu / gal	USEPA, 2012b
Heat content	2008	150,000 btu / gal	USEPA, 2012b
Heat content	2009	150,000 btu / gal	USEPA, 2012b
Heat content	2010	150,000 btu / gal	USEPA, 2012b
Heat content	2011	150,000 btu / gal	USEPA, 2012b
Heat content	2012	150,000 btu / gal	USEPA, 2012b
Heat content	2013	150,000 btu / gal	USEPA, 2012b
Heat content	2014	150,000 btu / gal	USEPA, 2012b

► Sector = Water-borne : International : Transit (CA waters)

Activity = Fuel combustion - Distillate

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Distillate	2000	1,181,541 gal	ARB, 2011b
Fuel combustion - Distillate	2001	1,253,266 gal	ARB, 2011b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel combustion - Distillate	2002	1,329,090 gal	ARB, 2011b
Fuel combustion - Distillate	2003	1,409,489 gal	ARB, 2011b
Fuel combustion - Distillate	2004	1,495,003 gal	ARB, 2011b
Fuel combustion - Distillate	2005	1,586,248 gal	ARB, 2011b
Fuel combustion - Distillate	2006	1,672,309 gal	ARB, 2011b
Fuel combustion - Distillate	2007	1,927,299 gal	ARB, 2011b
Fuel combustion - Distillate	2008	1,896,486 gal	ARB, 2011b
Fuel combustion - Distillate	2009	1,651,623 gal	ARB, 2011b
Fuel combustion - Distillate	2010	1,544,343 gal	ARB, 2011b
Fuel combustion - Distillate	2011	1,414,294 gal	ARB, 2011b
Fuel combustion - Distillate	2012	1,418,899 gal	ARB, 2011b
Fuel combustion - Distillate	2013	1,486,230 gal	ARB, 2011b
Fuel combustion - Distillate	2014	1,515,954 gal	ARB, 2011b
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b
Heat content	2014	138,000 btu / gal	USEPA, 2012b

Activity = Fuel combustion - Residual fuel oil

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Residual fuel oil	2000	62,024,232 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2001	65,016,772 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2002	68,139,431 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2003	71,402,591 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2004	74,817,735 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2005	78,397,583 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2006	81,423,809 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2007	84,620,697 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2008	77,438,421 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2009	63,351,237 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2010	67,453,956 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2011	66,736,472 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2012	70,672,250 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2013	74,427,408 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2014	75,915,956 gal	ARB, 2011b
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.0751 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CO2 emission	2006	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.0751 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	150,000 btu / gal	USEPA, 2012b
Heat content	2001	150,000 btu / gal	USEPA, 2012b
Heat content	2002	150,000 btu / gal	USEPA, 2012b
Heat content	2003	150,000 btu / gal	USEPA, 2012b
Heat content	2004	150,000 btu / gal	USEPA, 2012b
Heat content	2005	150,000 btu / gal	USEPA, 2012b
Heat content	2006	150,000 btu / gal	USEPA, 2012b
Heat content	2007	150,000 btu / gal	USEPA, 2012b
Heat content	2008	150,000 btu / gal	USEPA, 2012b
Heat content	2009	150,000 btu / gal	USEPA, 2012b
Heat content	2010	150,000 btu / gal	USEPA, 2012b
Heat content	2011	150,000 btu / gal	USEPA, 2012b
Heat content	2012	150,000 btu / gal	USEPA, 2012b
Heat content	2013	150,000 btu / gal	USEPA, 2012b
Heat content	2014	150,000 btu / gal	USEPA, 2012b

► Sector = Water-borne : International Marine Bunker Fuel

Activity = Fuel combustion - Distillate

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Distillate	2000	88,948,991 gal	TSD Water-borne Transport
Fuel combustion - Distillate	2001	42,983,123 gal	TSD Water-borne Transport
Fuel combustion - Distillate	2002	47,530,431 gal	TSD Water-borne Transport
Fuel combustion - Distillate	2003	54,174,249 gal	TSD Water-borne Transport
Fuel combustion - Distillate	2004	32,028,722 gal	TSD Water-borne Transport
Fuel combustion - Distillate	2005	118,350,780 gal	TSD Water-borne Transport
Fuel combustion - Distillate	2006	109,918,226 gal	TSD Water-borne Transport
Fuel combustion - Distillate	2007	90,033,901 gal	TSD Water-borne Transport
Fuel combustion - Distillate	2008	67,034,437 gal	TSD Water-borne Transport
Fuel combustion - Distillate	2009	131,562,923 gal	TSD Water-borne Transport
Fuel combustion - Distillate	2010	75,623,526 gal	TSD Water-borne Transport
Fuel combustion - Distillate	2011	106,701,628 gal	TSD Water-borne Transport

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel combustion - Distillate	2012	108,672,767 gal	TSD Water-borne Transport
Fuel combustion - Distillate	2013	111,932,950 gal	TSD Water-borne Transport
Fuel combustion - Distillate	2014	114,171,609 gal	TSD Water-borne Transport
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b
Heat content	2014	138,000 btu / gal	USEPA, 2012b

Activity = Fuel combustion - Residual fuel oil

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Residual fuel oil	2000	1,313,075,911 gal	TSD Water-borne Transport
Fuel combustion - Residual fuel oil	2001	979,508,415 gal	TSD Water-borne Transport
Fuel combustion - Residual fuel oil	2002	1,175,977,422 gal	TSD Water-borne Transport
Fuel combustion - Residual fuel oil	2003	788,009,092 gal	TSD Water-borne Transport
Fuel combustion - Residual fuel oil	2004	960,480,821 gal	TSD Water-borne Transport
Fuel combustion - Residual fuel oil	2005	1,206,002,918 gal	TSD Water-borne Transport
Fuel combustion - Residual fuel oil	2006	1,351,246,506 gal	TSD Water-borne Transport
Fuel combustion - Residual fuel oil	2007	1,473,925,919 gal	TSD Water-borne Transport
Fuel combustion - Residual fuel oil	2008	1,502,958,423 gal	TSD Water-borne Transport
Fuel combustion - Residual fuel oil	2009	1,459,461,857 gal	TSD Water-borne Transport
Fuel combustion - Residual fuel oil	2010	1,514,521,060 gal	TSD Water-borne Transport
Fuel combustion - Residual fuel oil	2011	1,071,022,450 gal	TSD Water-borne Transport
Fuel combustion - Residual fuel oil	2012	936,512,006 gal	TSD Water-borne Transport
Fuel combustion - Residual fuel oil	2013	964,607,366 gal	TSD Water-borne Transport
Fuel combustion - Residual fuel oil	2014	983,899,513 gal	TSD Water-borne Transport
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.0751 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	150,000 btu / gal	USEPA, 2012b
Heat content	2001	150,000 btu / gal	USEPA, 2012b
Heat content	2002	150,000 btu / gal	USEPA, 2012b
Heat content	2003	150,000 btu / gal	USEPA, 2012b
Heat content	2004	150,000 btu / gal	USEPA, 2012b
Heat content	2005	150,000 btu / gal	USEPA, 2012b
Heat content	2006	150,000 btu / gal	USEPA, 2012b
Heat content	2007	150,000 btu / gal	USEPA, 2012b
Heat content	2008	150,000 btu / gal	USEPA, 2012b
Heat content	2009	150,000 btu / gal	USEPA, 2012b
Heat content	2010	150,000 btu / gal	USEPA, 2012b
Heat content	2011	150,000 btu / gal	USEPA, 2012b
Heat content	2012	150,000 btu / gal	USEPA, 2012b
Heat content	2013	150,000 btu / gal	USEPA, 2012b
Heat content	2014	150,000 btu / gal	USEPA, 2012b

IPCC category = 1A3dii — Fuel Combustion Activities - Transport - Water-borne Navigation - Domestic Water-borne Navigation

► Sector = Water-borne

Activity = Fuel combustion - Ethanol

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Ethanol	2000	301,053 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2001	225,679 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2002	399,929 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2003	2,589,835 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2004	3,329,324 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2005	4,302,102 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2006	3,972,066 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2007	4,184,762 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2008	4,202,642 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2009	4,488,950 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2010	6,369,514 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2011	5,529,366 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2012	6,337,039 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2013	6,475,295 gal	TSD Gasoline / Ethanol
Fuel combustion - Ethanol	2014	6,744,499 gal	TSD Gasoline / Ethanol
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.0684 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.0684 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	84,000 btu / gal	USEPA, 2012b
Heat content	2001	84,000 btu / gal	USEPA, 2012b
Heat content	2002	84,000 btu / gal	USEPA, 2012b
Heat content	2003	84,000 btu / gal	USEPA, 2012b
Heat content	2004	84,000 btu / gal	USEPA, 2012b
Heat content	2005	84,000 btu / gal	USEPA, 2012b
Heat content	2006	84,000 btu / gal	USEPA, 2012b
Heat content	2007	84,000 btu / gal	USEPA, 2012b
Heat content	2008	84,000 btu / gal	USEPA, 2012b
Heat content	2009	84,000 btu / gal	USEPA, 2012b
Heat content	2010	84,000 btu / gal	USEPA, 2012b
Heat content	2011	84,000 btu / gal	USEPA, 2012b
Heat content	2012	84,000 btu / gal	USEPA, 2012b
Heat content	2013	84,000 btu / gal	USEPA, 2012b
Heat content	2014	84,000 btu / gal	USEPA, 2012b

Activity = Fuel combustion - Gasoline

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Gasoline	2000	79,692,947 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2001	44,345,321 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2002	67,031,071 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2003	72,341,165 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2004	60,611,676 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2005	73,549,898 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2006	67,782,934 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2007	71,284,238 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2008	64,609,358 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2009	67,785,050 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2010	60,646,486 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2011	48,097,071 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2012	59,799,553 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2013	58,283,750 gal	TSD Gasoline / Ethanol
Fuel combustion - Gasoline	2014	56,158,457 gal	TSD Gasoline / Ethanol
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.0709 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0709 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0711 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.071 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0711 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.071 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.0713 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0717 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0713 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0713 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0713 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0713 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0713 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.0713 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.0713 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	125,000 btu / gal	USEPA, 2012b
Heat content	2001	125,000 btu / gal	USEPA, 2012b
Heat content	2002	125,000 btu / gal	USEPA, 2012b
Heat content	2003	125,000 btu / gal	USEPA, 2012b
Heat content	2004	125,000 btu / gal	USEPA, 2012b
Heat content	2005	125,000 btu / gal	USEPA, 2012b
Heat content	2006	125,000 btu / gal	USEPA, 2012b
Heat content	2007	125,000 btu / gal	USEPA, 2012b
Heat content	2008	125,000 btu / gal	USEPA, 2012b
Heat content	2009	125,000 btu / gal	USEPA, 2012b
Heat content	2010	125,000 btu / gal	USEPA, 2012b
Heat content	2011	125,000 btu / gal	USEPA, 2012b
Heat content	2012	125,000 btu / gal	USEPA, 2012b
Heat content	2013	125,000 btu / gal	USEPA, 2012b
Heat content	2014	125,000 btu / gal	USEPA, 2012b

► Sector = Water-borne : Interstate : Port activities

Activity = Fuel combustion - Distillate

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Distillate	2000	450,624 gal	ARB, 2011b
Fuel combustion - Distillate	2001	472,396 gal	ARB, 2011b
Fuel combustion - Distillate	2002	494,881 gal	ARB, 2011b
Fuel combustion - Distillate	2003	518,127 gal	ARB, 2011b
Fuel combustion - Distillate	2004	542,185 gal	ARB, 2011b
Fuel combustion - Distillate	2005	567,112 gal	ARB, 2011b
Fuel combustion - Distillate	2006	589,166 gal	ARB, 2011b
Fuel combustion - Distillate	2007	609,711 gal	ARB, 2011b
Fuel combustion - Distillate	2008	567,713 gal	ARB, 2011b
Fuel combustion - Distillate	2009	493,937 gal	ARB, 2011b
Fuel combustion - Distillate	2010	514,693 gal	ARB, 2011b
Fuel combustion - Distillate	2011	540,734 gal	ARB, 2011b
Fuel combustion - Distillate	2012	604,194 gal	ARB, 2011b
Fuel combustion - Distillate	2013	634,325 gal	ARB, 2011b
Fuel combustion - Distillate	2014	647,012 gal	ARB, 2011b
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b
Heat content	2014	138,000 btu / gal	USEPA, 2012b

Activity = Fuel combustion - Residual fuel oil

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Residual fuel oil	2000	4,319,851 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2001	4,535,406 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2002	4,757,680 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2003	4,987,129 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2004	5,224,251 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2005	5,469,586 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2006	5,678,712 gal	ARB, 2011b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel combustion - Residual fuel oil	2007	6,004,456 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2008	5,670,940 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2009	4,931,855 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2010	4,752,909 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2011	5,145,230 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2012	6,072,664 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2013	6,096,218 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2014	6,218,142 gal	ARB, 2011b
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.0751 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	150,000 btu / gal	USEPA, 2012b
Heat content	2001	150,000 btu / gal	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Heat content	2002	150,000 btu / gal	USEPA, 2012b
Heat content	2003	150,000 btu / gal	USEPA, 2012b
Heat content	2004	150,000 btu / gal	USEPA, 2012b
Heat content	2005	150,000 btu / gal	USEPA, 2012b
Heat content	2006	150,000 btu / gal	USEPA, 2012b
Heat content	2007	150,000 btu / gal	USEPA, 2012b
Heat content	2008	150,000 btu / gal	USEPA, 2012b
Heat content	2009	150,000 btu / gal	USEPA, 2012b
Heat content	2010	150,000 btu / gal	USEPA, 2012b
Heat content	2011	150,000 btu / gal	USEPA, 2012b
Heat content	2012	150,000 btu / gal	USEPA, 2012b
Heat content	2013	150,000 btu / gal	USEPA, 2012b
Heat content	2014	150,000 btu / gal	USEPA, 2012b

► Sector = Water-borne : Interstate : Transit (CA waters)

Activity = Fuel combustion - Distillate

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Distillate	2000	286,611 gal	ARB, 2011b
Fuel combustion - Distillate	2001	302,974 gal	ARB, 2011b
Fuel combustion - Distillate	2002	320,090 gal	ARB, 2011b
Fuel combustion - Distillate	2003	338,036 gal	ARB, 2011b
Fuel combustion - Distillate	2004	356,898 gal	ARB, 2011b
Fuel combustion - Distillate	2005	376,774 gal	ARB, 2011b
Fuel combustion - Distillate	2006	396,904 gal	ARB, 2011b
Fuel combustion - Distillate	2007	435,857 gal	ARB, 2011b
Fuel combustion - Distillate	2008	421,324 gal	ARB, 2011b
Fuel combustion - Distillate	2009	366,092 gal	ARB, 2011b
Fuel combustion - Distillate	2010	356,559 gal	ARB, 2011b
Fuel combustion - Distillate	2011	346,953 gal	ARB, 2011b
Fuel combustion - Distillate	2012	368,977 gal	ARB, 2011b
Fuel combustion - Distillate	2013	384,730 gal	ARB, 2011b
Fuel combustion - Distillate	2014	392,425 gal	ARB, 2011b
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b
Heat content	2014	138,000 btu / gal	USEPA, 2012b

Activity = Fuel combustion - Residual fuel oil

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Residual fuel oil	2000	16,837,303 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2001	17,700,688 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2002	18,595,370 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2003	19,523,604 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2004	20,487,850 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2005	21,490,792 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2006	22,479,407 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2007	23,188,675 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2008	21,321,510 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2009	17,510,071 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2010	18,689,514 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2011	19,122,696 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2012	21,149,516 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2013	21,871,872 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2014	22,309,309 gal	ARB, 2011b
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.0751 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	150,000 btu / gal	USEPA, 2012b
Heat content	2001	150,000 btu / gal	USEPA, 2012b
Heat content	2002	150,000 btu / gal	USEPA, 2012b
Heat content	2003	150,000 btu / gal	USEPA, 2012b
Heat content	2004	150,000 btu / gal	USEPA, 2012b
Heat content	2005	150,000 btu / gal	USEPA, 2012b
Heat content	2006	150,000 btu / gal	USEPA, 2012b
Heat content	2007	150,000 btu / gal	USEPA, 2012b
Heat content	2008	150,000 btu / gal	USEPA, 2012b
Heat content	2009	150,000 btu / gal	USEPA, 2012b
Heat content	2010	150,000 btu / gal	USEPA, 2012b
Heat content	2011	150,000 btu / gal	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Heat content	2012	150,000 btu / gal	USEPA, 2012b
Heat content	2013	150,000 btu / gal	USEPA, 2012b
Heat content	2014	150,000 btu / gal	USEPA, 2012b

► Sector = Water-borne : Intrastate : Harbor craft

Activity = Fuel combustion - Distillate

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Distillate	2000	82,291,076 gal	TSD Water-borne Transport
Fuel combustion - Distillate	2001	85,408,917 gal	TSD Water-borne Transport
Fuel combustion - Distillate	2002	85,653,265 gal	TSD Water-borne Transport
Fuel combustion - Distillate	2003	86,105,810 gal	TSD Water-borne Transport
Fuel combustion - Distillate	2004	85,651,305 gal	TSD Water-borne Transport
Fuel combustion - Distillate	2005	86,973,492 gal	TSD Water-borne Transport
Fuel combustion - Distillate	2006	87,306,385 gal	TSD Water-borne Transport
Fuel combustion - Distillate	2007	87,626,312 gal	TSD Water-borne Transport
Fuel combustion - Distillate	2008	88,038,236 gal	ARB, 2010b
Fuel combustion - Distillate	2009	88,483,574 gal	ARB, 2010b
Fuel combustion - Distillate	2010	89,234,777 gal	ARB, 2010b
Fuel combustion - Distillate	2011	89,783,292 gal	ARB, 2010b
Fuel combustion - Distillate	2012	90,383,809 gal	ARB, 2010b
Fuel combustion - Distillate	2013	90,845,428 gal	ARB, 2010b
Fuel combustion - Distillate	2014	91,439,320 gal	ARB, 2010b
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b
Heat content	2014	138,000 btu / gal	USEPA, 2012b

► Sector = Water-borne : Intrastate : Port activities

Activity = Fuel combustion - Distillate

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Distillate	2000	1,544,465 gal	ARB, 2011b
Fuel combustion - Distillate	2001	1,620,419 gal	ARB, 2011b
Fuel combustion - Distillate	2002	1,699,175 gal	ARB, 2011b
Fuel combustion - Distillate	2003	1,780,937 gal	ARB, 2011b
Fuel combustion - Distillate	2004	1,865,928 gal	ARB, 2011b
Fuel combustion - Distillate	2005	1,954,391 gal	ARB, 2011b
Fuel combustion - Distillate	2006	2,011,115 gal	ARB, 2011b
Fuel combustion - Distillate	2007	2,083,934 gal	ARB, 2011b
Fuel combustion - Distillate	2008	1,965,097 gal	ARB, 2011b
Fuel combustion - Distillate	2009	1,739,953 gal	ARB, 2011b
Fuel combustion - Distillate	2010	1,828,033 gal	ARB, 2011b
Fuel combustion - Distillate	2011	1,876,224 gal	ARB, 2011b
Fuel combustion - Distillate	2012	2,000,571 gal	ARB, 2011b
Fuel combustion - Distillate	2013	2,098,130 gal	ARB, 2011b
Fuel combustion - Distillate	2014	2,140,093 gal	ARB, 2011b
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b
Heat content	2014	138,000 btu / gal	USEPA, 2012b

Activity = Fuel combustion - Residual fuel oil

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Residual fuel oil	2000	15,756,211 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2001	16,560,137 gal	ARB, 2011b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel combustion - Residual fuel oil	2002	17,391,594 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2003	18,252,685 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2004	19,145,720 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2005	20,073,249 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2006	20,216,097 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2007	21,544,471 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2008	20,603,014 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2009	18,059,145 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2010	17,236,687 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2011	18,326,585 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2012	21,188,964 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2013	21,824,633 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2014	22,261,125 gal	ARB, 2011b
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.0751 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	150,000 btu / gal	USEPA, 2012b
Heat content	2001	150,000 btu / gal	USEPA, 2012b
Heat content	2002	150,000 btu / gal	USEPA, 2012b
Heat content	2003	150,000 btu / gal	USEPA, 2012b
Heat content	2004	150,000 btu / gal	USEPA, 2012b
Heat content	2005	150,000 btu / gal	USEPA, 2012b
Heat content	2006	150,000 btu / gal	USEPA, 2012b
Heat content	2007	150,000 btu / gal	USEPA, 2012b
Heat content	2008	150,000 btu / gal	USEPA, 2012b
Heat content	2009	150,000 btu / gal	USEPA, 2012b
Heat content	2010	150,000 btu / gal	USEPA, 2012b
Heat content	2011	150,000 btu / gal	USEPA, 2012b
Heat content	2012	150,000 btu / gal	USEPA, 2012b
Heat content	2013	150,000 btu / gal	USEPA, 2012b
Heat content	2014	150,000 btu / gal	USEPA, 2012b

► Sector = Water-borne : Intrastate : Transit (CA waters)

Activity = Fuel combustion - Distillate

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Distillate	2000	507,132 gal	ARB, 2011b
Fuel combustion - Distillate	2001	541,421 gal	ARB, 2011b
Fuel combustion - Distillate	2002	577,465 gal	ARB, 2011b
Fuel combustion - Distillate	2003	615,461 gal	ARB, 2011b
Fuel combustion - Distillate	2004	655,629 gal	ARB, 2011b
Fuel combustion - Distillate	2005	698,222 gal	ARB, 2011b
Fuel combustion - Distillate	2006	738,972 gal	ARB, 2011b
Fuel combustion - Distillate	2007	828,791 gal	ARB, 2011b
Fuel combustion - Distillate	2008	822,723 gal	ARB, 2011b
Fuel combustion - Distillate	2009	729,923 gal	ARB, 2011b
Fuel combustion - Distillate	2010	707,683 gal	ARB, 2011b
Fuel combustion - Distillate	2011	652,434 gal	ARB, 2011b
Fuel combustion - Distillate	2012	643,397 gal	ARB, 2011b
Fuel combustion - Distillate	2013	652,662 gal	ARB, 2011b
Fuel combustion - Distillate	2014	665,715 gal	ARB, 2011b
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b
Heat content	2014	138,000 btu / gal	USEPA, 2012b

Activity = Fuel combustion - Residual fuel oil

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Residual fuel oil	2000	33,282,837 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2001	35,205,000 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2002	37,200,603 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2003	39,275,320 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2004	41,435,356 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2005	43,687,504 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2006	45,722,731 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2007	46,523,544 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2008	43,208,668 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2009	36,557,027 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2010	39,959,365 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2011	39,595,222 gal	ARB, 2011b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel combustion - Residual fuel oil	2012	41,126,567 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2013	41,495,005 gal	ARB, 2011b
Fuel combustion - Residual fuel oil	2014	42,324,906 gal	ARB, 2011b
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.0751 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.0751 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	150,000 btu / gal	USEPA, 2012b
Heat content	2001	150,000 btu / gal	USEPA, 2012b
Heat content	2002	150,000 btu / gal	USEPA, 2012b
Heat content	2003	150,000 btu / gal	USEPA, 2012b
Heat content	2004	150,000 btu / gal	USEPA, 2012b
Heat content	2005	150,000 btu / gal	USEPA, 2012b
Heat content	2006	150,000 btu / gal	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Heat content	2007	150,000 btu / gal	USEPA, 2012b
Heat content	2008	150,000 btu / gal	USEPA, 2012b
Heat content	2009	150,000 btu / gal	USEPA, 2012b
Heat content	2010	150,000 btu / gal	USEPA, 2012b
Heat content	2011	150,000 btu / gal	USEPA, 2012b
Heat content	2012	150,000 btu / gal	USEPA, 2012b
Heat content	2013	150,000 btu / gal	USEPA, 2012b
Heat content	2014	150,000 btu / gal	USEPA, 2012b

IPCC category = 1A3eii — Fuel Combustion Activities - Transport - Other Transportation - Off-road

► Sector = Off Road : Airport Ground Support Equipment

Activity = Fuel combustion - Distillate

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Distillate	2000	3,184,289 gal	ARB, 2011a
Fuel combustion - Distillate	2001	3,023,871 gal	ARB, 2011a
Fuel combustion - Distillate	2002	2,821,545 gal	ARB, 2011a
Fuel combustion - Distillate	2003	2,823,085 gal	ARB, 2011a
Fuel combustion - Distillate	2004	3,036,758 gal	ARB, 2011a
Fuel combustion - Distillate	2005	3,066,850 gal	ARB, 2011a
Fuel combustion - Distillate	2006	3,052,658 gal	ARB, 2011a
Fuel combustion - Distillate	2007	3,083,971 gal	ARB, 2011a
Fuel combustion - Distillate	2008	3,008,909 gal	ARB, 2011a
Fuel combustion - Distillate	2009	2,716,977 gal	ARB, 2011a
Fuel combustion - Distillate	2010	2,635,468 gal	ARB, 2011a
Fuel combustion - Distillate	2011	2,738,127 gal	ARB, 2011a
Fuel combustion - Distillate	2012	2,840,786 gal	ARB, 2011a
Fuel combustion - Distillate	2013	2,943,445 gal	ARB, 2011a
Fuel combustion - Distillate	2014	3,046,104 gal	ARB, 2011a
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b
Heat content	2014	138,000 btu / gal	USEPA, 2012b

► Sector = Off Road : Construction and Mining Equipment

Activity = Fuel combustion - Distillate

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Distillate	2000	224,552,961 gal	ARB, 2011a
Fuel combustion - Distillate	2001	238,992,745 gal	ARB, 2011a
Fuel combustion - Distillate	2002	237,170,933 gal	ARB, 2011a
Fuel combustion - Distillate	2003	243,994,600 gal	ARB, 2011a
Fuel combustion - Distillate	2004	260,484,992 gal	ARB, 2011a
Fuel combustion - Distillate	2005	277,474,031 gal	ARB, 2011a
Fuel combustion - Distillate	2006	286,289,152 gal	ARB, 2011a
Fuel combustion - Distillate	2007	273,730,027 gal	ARB, 2011a
Fuel combustion - Distillate	2008	241,603,901 gal	ARB, 2011a
Fuel combustion - Distillate	2009	190,226,942 gal	ARB, 2011a
Fuel combustion - Distillate	2010	171,187,616 gal	ARB, 2011a
Fuel combustion - Distillate	2011	180,122,292 gal	ARB, 2011a
Fuel combustion - Distillate	2012	189,100,839 gal	ARB, 2011a
Fuel combustion - Distillate	2013	198,069,393 gal	ARB, 2011a
Fuel combustion - Distillate	2014	206,902,527 gal	ARB, 2011a
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Heat content	2014	138,000 btu / gal	USEPA, 2012b
Sector = Off Road : Industrial Equipment			
Activity = Fuel combustion - Distillate			
- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Distillate	2000	18,979,532 gal	ARB, 2011a
Fuel combustion - Distillate	2001	20,197,704 gal	ARB, 2011a
Fuel combustion - Distillate	2002	20,041,761 gal	ARB, 2011a
Fuel combustion - Distillate	2003	20,622,543 gal	ARB, 2011a
Fuel combustion - Distillate	2004	22,011,784 gal	ARB, 2011a
Fuel combustion - Distillate	2005	23,429,589 gal	ARB, 2011a
Fuel combustion - Distillate	2006	24,167,736 gal	ARB, 2011a
Fuel combustion - Distillate	2007	23,103,115 gal	ARB, 2011a
Fuel combustion - Distillate	2008	20,386,785 gal	ARB, 2011a
Fuel combustion - Distillate	2009	16,046,652 gal	ARB, 2011a
Fuel combustion - Distillate	2010	14,442,007 gal	ARB, 2011a
Fuel combustion - Distillate	2011	15,200,922 gal	ARB, 2011a
Fuel combustion - Distillate	2012	15,959,838 gal	ARB, 2011a
Fuel combustion - Distillate	2013	16,718,754 gal	ARB, 2011a
Fuel combustion - Distillate	2014	17,477,670 gal	ARB, 2011a
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b
Heat content	2014	138,000 btu / gal	USEPA, 2012b

► Sector = Off Road : Oil Drilling Equipment

Activity = Fuel combustion - Distillate

- Variable Name -	- Year -	- Value and Units -	- Reference -
Fuel combustion - Distillate	2000	10,211,675 gal	ARB, 2011a
Fuel combustion - Distillate	2001	10,209,842 gal	ARB, 2011a
Fuel combustion - Distillate	2002	10,198,917 gal	ARB, 2011a
Fuel combustion - Distillate	2003	10,199,341 gal	ARB, 2011a
Fuel combustion - Distillate	2004	10,207,287 gal	ARB, 2011a
Fuel combustion - Distillate	2005	10,187,208 gal	ARB, 2011a
Fuel combustion - Distillate	2006	10,207,622 gal	ARB, 2011a
Fuel combustion - Distillate	2007	10,225,578 gal	ARB, 2011a
Fuel combustion - Distillate	2008	10,243,478 gal	ARB, 2011a
Fuel combustion - Distillate	2009	10,273,303 gal	ARB, 2011a
Fuel combustion - Distillate	2010	10,244,099 gal	ARB, 2011a
Fuel combustion - Distillate	2011	10,232,787 gal	ARB, 2011a
Fuel combustion - Distillate	2012	10,221,288 gal	ARB, 2011a
Fuel combustion - Distillate	2013	10,210,659 gal	ARB, 2011a
Fuel combustion - Distillate	2014	10,188,614 gal	ARB, 2011a
Fuel CH4 emission	2000	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2001	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2002	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2003	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2004	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2005	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2006	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2007	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2008	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2009	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2010	3.000E-06 g / btu	USEPA, 2012b

Variables Used in the Emissions Estimation Equations

Values last updated on Wednesday, March 30, 2016

Fuel CH4 emission	2011	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2012	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2013	3.000E-06 g / btu	USEPA, 2012b
Fuel CH4 emission	2014	3.000E-06 g / btu	USEPA, 2012b
Fuel CO2 emission	2000	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2001	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2002	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2003	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2004	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2005	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2006	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2007	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2008	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2009	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2010	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2011	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2012	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2013	0.074 g / btu	USEPA, 2012b
Fuel CO2 emission	2014	0.074 g / btu	USEPA, 2012b
Fuel N2O emission	2000	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2001	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2002	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2003	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2004	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2005	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2006	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2007	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2008	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2009	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2010	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2011	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2012	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2013	6.000E-07 g / btu	USEPA, 2012b
Fuel N2O emission	2014	6.000E-07 g / btu	USEPA, 2012b
Heat content	2000	138,000 btu / gal	USEPA, 2012b
Heat content	2001	138,000 btu / gal	USEPA, 2012b
Heat content	2002	138,000 btu / gal	USEPA, 2012b
Heat content	2003	138,000 btu / gal	USEPA, 2012b
Heat content	2004	138,000 btu / gal	USEPA, 2012b
Heat content	2005	138,000 btu / gal	USEPA, 2012b
Heat content	2006	138,000 btu / gal	USEPA, 2012b
Heat content	2007	138,000 btu / gal	USEPA, 2012b
Heat content	2008	138,000 btu / gal	USEPA, 2012b
Heat content	2009	138,000 btu / gal	USEPA, 2012b
Heat content	2010	138,000 btu / gal	USEPA, 2012b
Heat content	2011	138,000 btu / gal	USEPA, 2012b
Heat content	2012	138,000 btu / gal	USEPA, 2012b
Heat content	2013	138,000 btu / gal	USEPA, 2012b
Heat content	2014	138,000 btu / gal	USEPA, 2012b